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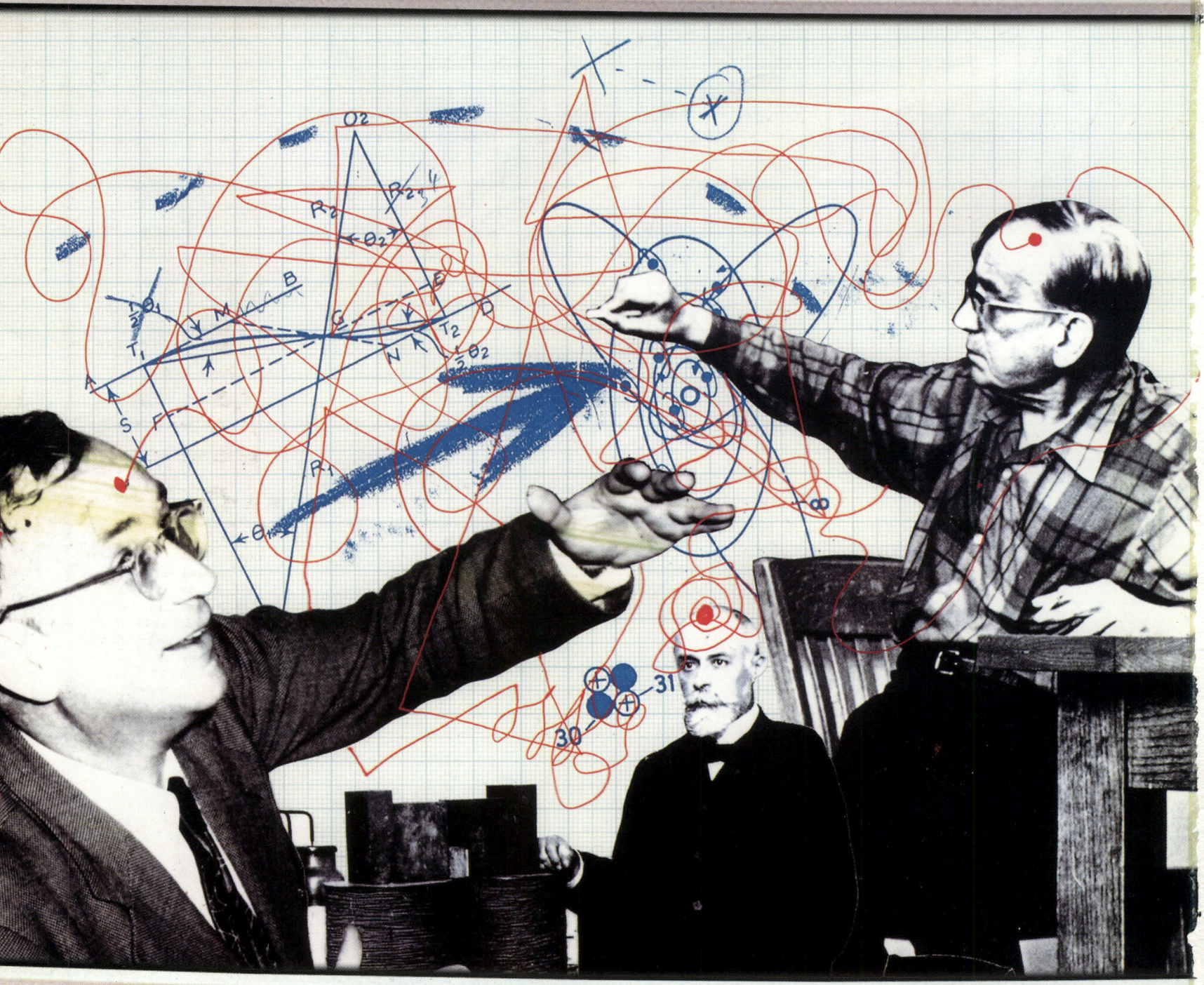

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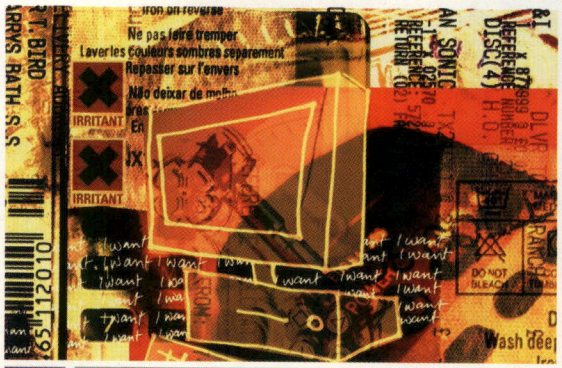

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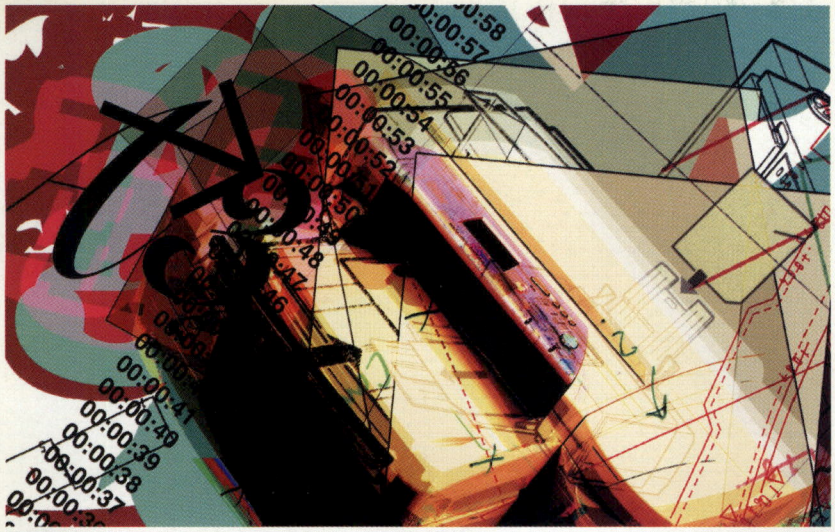

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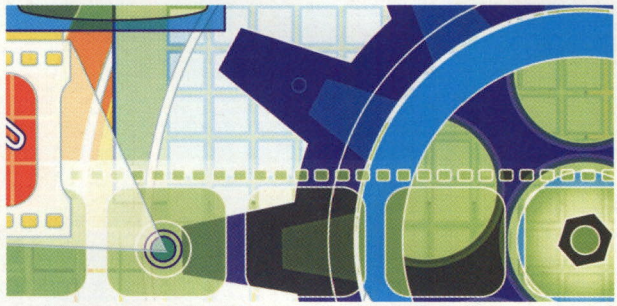

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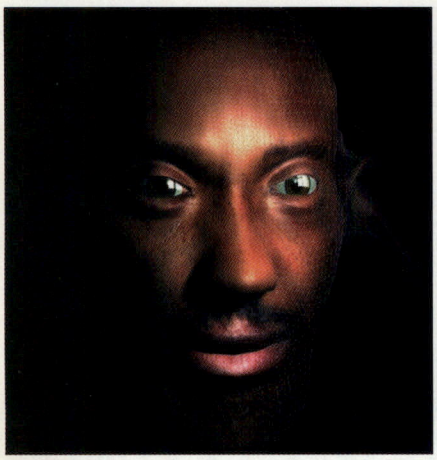

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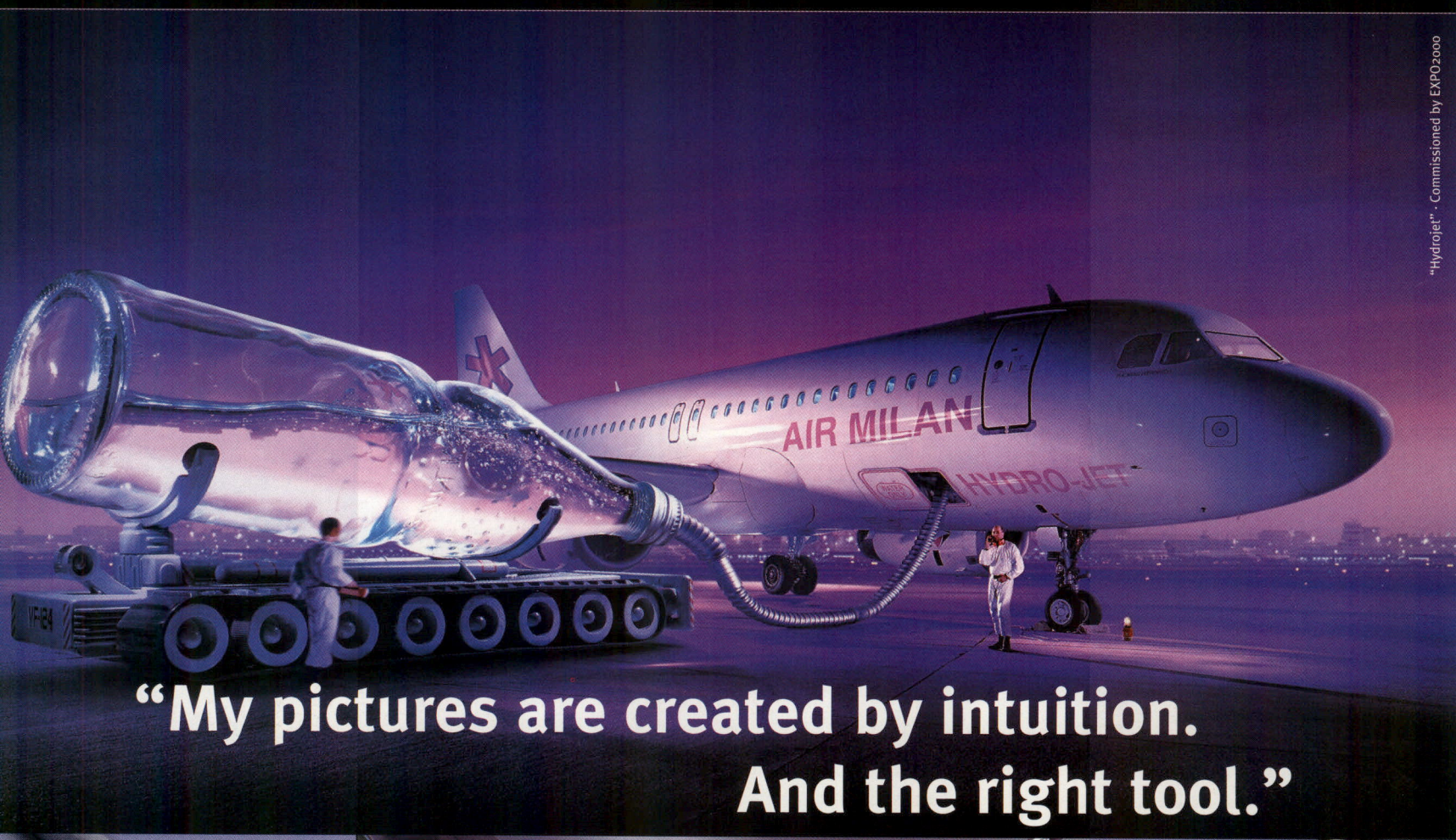
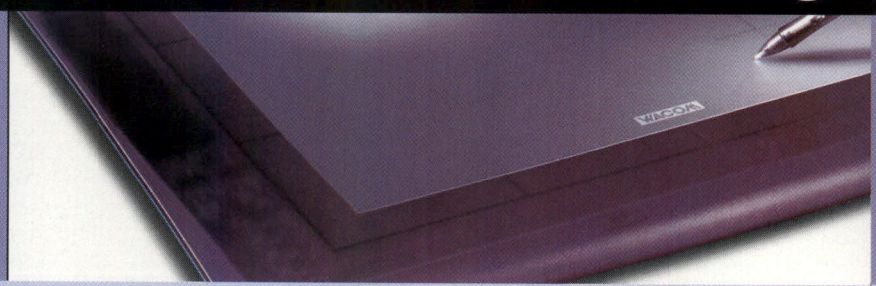


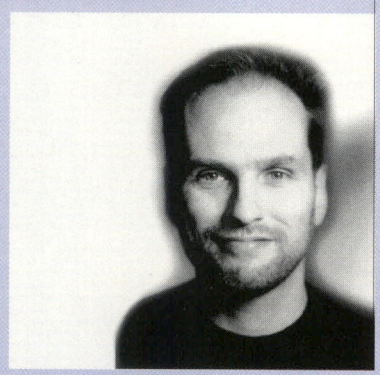
"Hydrojet" - Commissioned by EXPO2000

"My pictures are created by intuition. And the right tool."



"The impact generated by my composings comes from the perfect fusion of elements. The viewer has the feeling, 'That just can't be real, and yet it looks completely plausible!' I can achieve this effect by using the right input device – the Intuos graphics tablet from WACOM. The Intuos Pen is the only tool that allows me to make full use of the pressure sensitive features of today's sophisticated graphics software, such as paint and air brushes. That's why, for my work, the Intuos is indispensable. I can create the finest transitions and smoothest gradients just as intuitively as I can do fast and accurate cut-outs. And let the viewer decide what's real."

Thomas Herbrich



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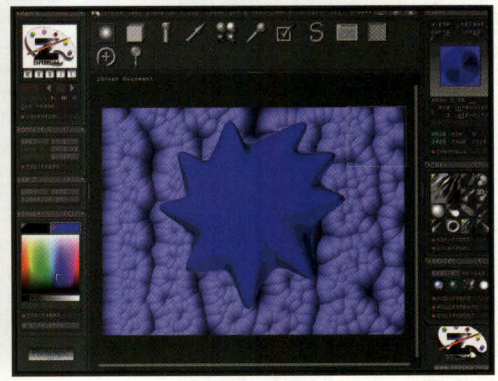

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Combustion (dual)

Professional-quality video compositing software

Flash 5 (dual)

Macromedia's Web animation tool, now complete with scripting and extended functionality

Photoshop 5.5 (dual)

Photoshop 6 is just round the corner, but for now here's 5.5

Tutorial files

The files you need to follow our *Photoshop*, 3D and Web tutorials

ZBrush (dual)

Pixologic's 3D Paint tool. You're required to register this demo – for further information please go to [w] www.computerarts.co.uk/cdrom More at [w] www.pixologic.com

Cinema 4D XL 6 (dual)

Fantastic 3D modelling and animation program. Intuitive interface and winning renderer

Paint Shop Pro 7 (PC)

Latest version of *Paint Shop Pro* – photo-editing for all

Pixels 3D 3.6.4 (Mac)

Full version of this 3D software. Register online using your machine code – more details on our site and at [w] www.pixels3d.com

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News [ca.news@futurenet.co.uk]

CorelDRAW 10

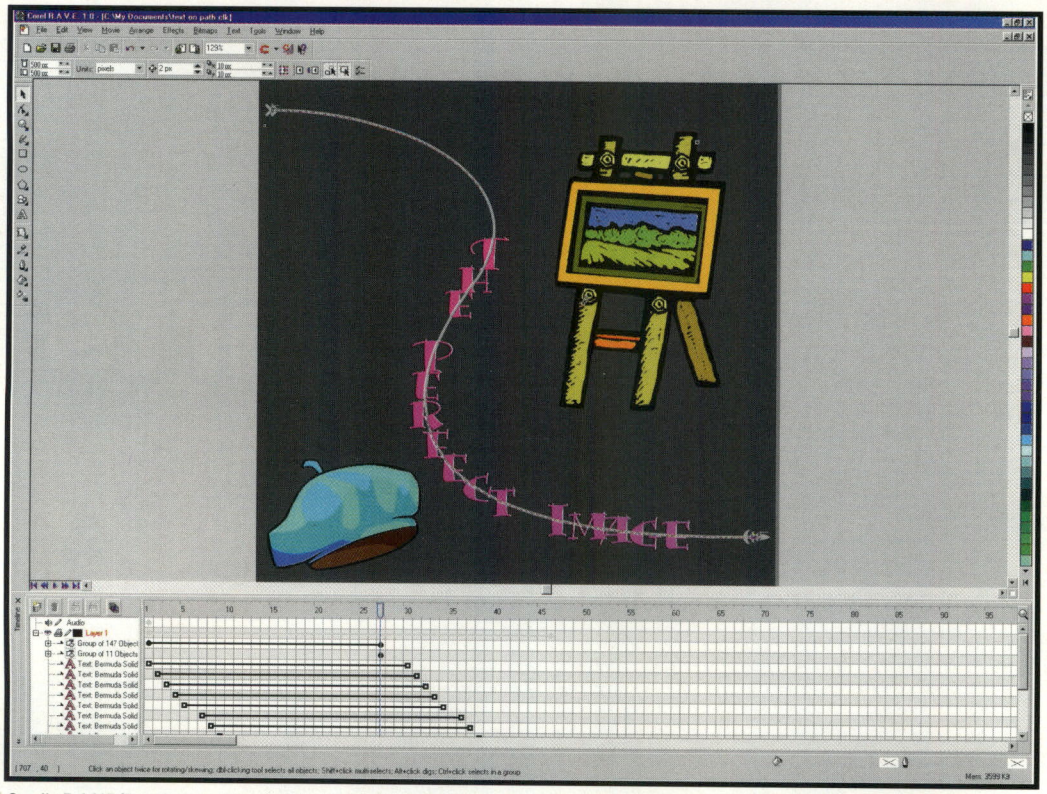
Corel's latest graphics package promises new Web features, vector animation and greater speed...

For the last 11 years, *CorelDRAW* has been a big name among vector-based graphics applications. Now, following the recent arrival of competitors like *FreeHand 9* and *Illustrator 9*, Corel is hanging high hopes on the success of its latest venture: *CorelDRAW 10*.

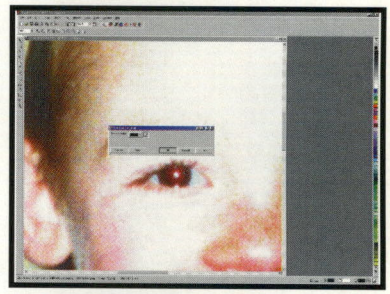
The key new inclusion in the *CorelDRAW Graphics Suite 10* is the company's new *R.A.V.E.* (Real Animated Vector Effects) application. A vector animation tool for the Web, it brings *DRAW* into line with Macromedia *Flash* and Adobe *LiveMotion*, and uses an interface similar to that used in *DRAW* and *PhotoPaint*. A timeline straddles the bottom quarter of the screen for basic keyframe animation, while interactive distortion tools and text effects can be applied to create animations on the stage above. You can also add audio objects, as well as export to the *Flash* SWF format, animated .gif, .avi and *QuickTime*.

Web enhancements

DRAW itself sees a range of tweaks on the Web publishing front. For easier creation of rollovers, the program can now embed three rollover states into a *DRAW* document, and enables you to preview them. These can be published for the Web as SWF objects, or as *Flash* embedded in HTML. The improved



Corel's *R.A.V.E.* (Real Animated Vector Effects) app utilises a split-screen timeline interface for expert control over animated text and images.



PhotoPaint is now faster, and you can easily preview the effects of different compression levels.

Perfect Shapes feature makes the creation of a range of common vector shapes quicker and more flexible. One of the most useful inclusions is the Zoom Navigator. Now you can move around a highly zoomed document using a thumbnail at the bottom of the screen, which highlights the magnified area and enables you to shift it around.

Although sometimes not considered a high-end production tool, *CorelDRAW 10* can export to PDF with job tickets and embedded fonts and files, and boasts its own colour management system. In line with ICC standards, you can set the software up to display representations on screen as close as possible to output colours, whether you're outputting to inkjet or linotronic printers. ICC profiles, Kodak Digital Science, Microsoft ICM and profiles from various printer companies can be specified if needed.

Pixel pusher

PhotoPaint is Corel's pixel pusher and, like *Photoshop*, now comes with Web optimisation features, enabling you to preview two or four images at a time and explore different levels of compression. Speed has been improved, too. *PhotoPaint* now only loads the components required, and the workspace is fully customisable. In addition, the new SmartBlur effect cleverly only applies blurs to cloudy parts of images, leaving sharp lines intact, allowing for more flexibility than the traditional Gaussian Blur.

While the Windows version of *CorelDRAW Graphics Suite 10* goes on sale in November, its Mac counterpart is expected in another five months' time, to tie in with the final Apple-sanctioned version of Mac OS X. *DRAW 10* for Linux will arrive later. ca

CorelDRAW 10 will cost £395, or £205 to upgrade. To find out more information, call [t] 01753 708 406 or visit [w] www.corel.co.uk

Snippets

Apple has announced that earnings for its quarter ending 30 September 2000 will be substantially below expectations, due to slower than expected sales in the month of September.

Fred Anderson, Apple's CFO, said that a business slowdown in all geographies, a slump in education sales and, more surprisingly, the Power Mac G4 Cube not being as popular as expected, had contributed to the shortfall.

We've clearly hit a speedbump," added Apple's CEO Steve Jobs, "which will result in our earnings, before investment gains, being approximately $110 million rather than the expected $165 million for the September quarter."

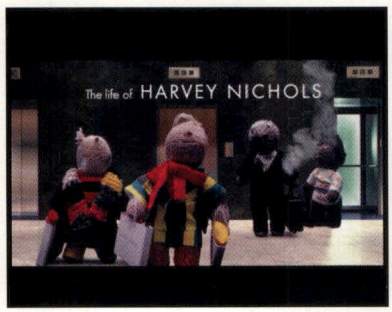
But with Mac OS X and other exciting new products on the horizon, the future for Apple is anything but bleak.

Publisher Rotovision has unveiled a new line of books concentrating on such topics as graphic design, illustration and Web design. One title that seems to stand out is *The ABC of Type*.

Billed as 'an essential guide to the hottest subject in graphic design – typography' the £12.95 tome has recently won the American Institute of Graphic Arts award for innovative design, and we think it's a worthy addition to any designer's bookshelf. You can find out more about this and other Rotovision titles by paying a visit to [w] www.rotovision.com

Creative professionals searching for that elusive contact can worry no longer, thanks to a new site from the publishers of the visual arts quarterly, *ZOO*. Creativebase.com aims to supply creatives with the ultimate meeting point, where users and practitioners, buyers and suppliers can solve every problem online.

The resource also offers a variety of guest editors, a specialist online store, and the opportunity to share technologies, ideas and skills with other pros. Just be careful who you talk to! Find the site at [w] www.creativebase.com ca



Harvey and Hibby

Knitted gerbils indulge in a little retail therapy...

The Moving Picture Company has just completed an ad for Harvey Nichols, which features a couple of characters called Harvey and Hibby – a curious pair of shopoholic knitted rodents. The ad was directed by ACNE International for Mother with MPC's Sean Schur supervising the project.

The brief was to take the adorable Harvey and Hibby into a real-world 3D environment while maintaining the 'cute, quirky style' of the original characters. To achieve this, MPC's CG Supervisor Jim Radford and Lead Animator Chas Jarrett recreated the world in 3D, using photographic stills to allow for greater flexibility in camera motion. Stills of Harvey and Hibby were then introduced into the piece. Smoke, fire effects and dialogue were also designed, in keeping with the style of the ad, and composited afterwards.

Harvey and Hibby have already made their glamorous debut, and you can now catch them wooing the crowds in cinemas up and down the country. ca

For more info contact [w] www.moving-picture.com or call [t] 020 7434 3100

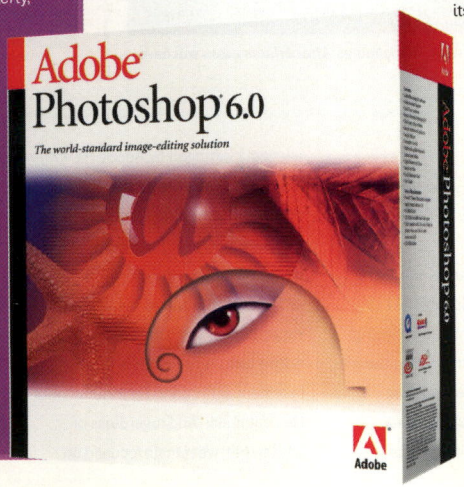
MPC used photographic stills to allow for greater flexibility in camera motion

Photoshop 6 goes on sale

The software release of the year finally hits the shops...

Just as *Computer Arts* goes to press, Adobe's *Photoshop 6* is hitting software shelves and e-commerce sites around the world. The current buzz surrounding the program focuses mainly on three areas of improvement: the inclusion of a vastly improved Text tool, the all-new vector graphics tools, and its revamped and much simplified user interface. Experienced users are predicting not only that non-*Photoshop* users from the Web and photography sectors will adopt the application in droves, but that with the new type and vector inclusions, *Photoshop* artwork could well be revitalised with a new spurt of originality.

If you missed issue 50 of *Computer Arts*, it contained a 36-page supplement full of details on the new features in *Photoshop 6*, along with tutorials explaining the best ways to apply them. Although reviews of the application have appeared in a variety of alternative print publications, the sale version is only just becoming available. *Computer Arts* will bring its readers a comprehensive review of the final code in our next issue. In the meantime, if you're dying for a copy and would like to chance your luck, enter this month's competition on page 75. ca



Photoshop 6 costs £469 (or £147 for an upgrade). Contact Adobe on [t] 020 8606 4001 or visit [w] www.adobe.co.uk To secure a copy of issue 50 of *CA* with our 36-page *Photoshop* supplement, please turn to page 107.

Paint Effects for AE

Maya's interactive painting features are now available for Adobe's *After Effects*...

Not satisfied with having wowed the 3D world with the *Paint Effects* technology found in recent versions of the *Maya* application, Alias|Wavefront has released the *Maya Paint Effects* plug-in for Adobe's video compositing application *After Effects*.

Just like *Maya* users, Alias is now promising *After Effects* afficionados the opportunity to quickly add organic detail to video shots by using animated paint strokes. Plants, fibres, glows, water and metal are amongst the numerous materials that can be splattered onto the screen with ease. "*After Effects* artists can now develop rich, natural animations using any of hundreds of available presets, or develop their own custom brushes to create the effect they want," commented Adobe's Senior Product Manager Steve Kilisky.

To get the new plug-in into the hands of users, Alias|Wavefront has opted for an all-online sales strategy for the first time. According to the company, speed and cost efficiency are the key reasons for this new move, and the download can be made from Toolfarm.com. *Maya Paint Effects* for *After Effects* is available for the Mac, as well as Windows NT, 98 and 2000. ca

Maya Paint Effects costs $499 and is available for purchase from [w] store.toolfarm.com/painteffects For further information, call [t] +800 4125 4125.

Computer-generated plants, branches and water effects are just a few of the things *After Effects* users will have at their fingertips, thanks to the new *Maya Paint Effects* plug-in.

Winning animator

Announcing Europe's top young animator of the year...

Alongside the *Computer Arts Star Awards 2000*, last month we were also able to announce the winner of the European Junior Animator Award, a competition sponsored by *Computer Arts*.

First prize went to Gwilym Morris, for his impressive full-colour animation of a comic alien creature which demonstrated a particularly refined range of movement. He included a series of general animations too, which wowed a judging panel including representatives from Glassworks, The Mill, Aldis Animation, Framestore, Metro New Media and Softimage. For his efforts, Gwilym took home a copy of *Softimage|XSI*, a Max Black workstation, training from The Finishing School, representation by digital talent outfit Dragon Horse, plus subscriptions to *Computer Arts* and *3D World*. It was a prize valued at over $15,000.

Second place went to Julian Howard, who received *XSI* training and free subscriptions to *Computer Arts* and *3D World*. The talented runners up were Howard Sly, Darren Brooker and Liam Kemp. "The submissions for the competition have proved to the 3D community that Europe is a centre of excellence for junior animators," commented Richard Spöhrer, the XSI Product Director who presented the award. ca

The European Junior Animator Award 2001 is shortly to be announced. For more information on how to enter, email [e] sadie@bubblesqueak.co.uk

Macromedia vs Adobe

Macromedia complains about Adobe, but Adobe started it. It'll all end in tears...

Macromedia has recently announced that it has filed counterclaims against Adobe Systems, for infringement of several Macromedia patents. This action was taken in direct response to Adobe's initiation of a lawsuit against Macromedia for allegedly infringing two Adobe patents. Specifically, Macromedia counterclaimed against Adobe for infringing three Macromedia patents: one relates to changing blended elements and automatic re-blending of elements, and is allegedly infringed by Adobe *Illustrator*; the second and third relate to visually displaying and editing soundwave forms, and are again allegedly infringed by Adobe *Premiere*.

"Macromedia has no choice but to vigorously defend itself against the Adobe lawsuit," said Kevin Lynch, President of Products for Macromedia. He continues: "And regardless of this lawsuit, we remain focused on developing and delivering the best products for our customers."

Adobe filed a complaint in August against tabbed palette features, then in September alleging that some image-rendering features of *Dreamweaver* and *Flash* infringed its patents. But both times Macromedia has denied the claims. The case continues... ca

Keep up to date: [w] www.adobe.com or [w] www.macromedia.com

PitStop Pro 4.5

Enfocus' recent upgrade available for free...

Enfocus Software has just brought out its latest version of *PitStop Pro*, ideal for high-end graphic artists, with a comprehensive set of features including preflight, editing and global changes. *PitStop Pro 4.5* builds on the existing tools in version 4.0, but now with more powerful control of PDF documents and workflows. It has new and expanded capabilities for colour management – including colour re-mapping, page renumbering, image resampling, PDF file scrubbing, customisable preflight checks and PDF file repurposing, where you can interactively or automatically repurpose PDF files.

The company also has an extended customisable Action Lists feature, with 75 additional lists on offer. *PitStop Pro 4.5* is available now for £299 from Computers Unlimited, or if you already own version 4.0 you can buy it as an upgrade for just £79 from Upgrades Unlimited. Alternatively, a special offer is available to *PitStop 4.0* users until 15 November this year: if you purchase a *PitStop* volume licence and a copy of *PitStop Server* while upgrading, you can receive the 4.5 upgrade for free, plus you'll even get money off the licence and the Server. Can't say fairer than that. ca

Contact: [w] www.unlimited.com, [w] www.upgrades.co.uk or [w] www.enfocus.com

FACT Centre

Building starts on Liverpool's first purpose-built arts centre in over 60 years...

After four years of research, planning and consultation, the FACT – Foundation for Art and Creative Technology – Centre is finally being built in Liverpool.

Designed by the architectural company Austin-Smith:Lord, the building will provide artists and audiences with what is promised to be a unique platform for producing and experiencing film, video and new media art.

The centre contains three galleries and three cinemas, which will be dedicated to new and retrospective work by artists and film-makers across the world. There'll also be an area called the Media Lounge which will serve as an online archive and presentation space, and something called The Box, which is going to be Britain's first micro-cinema. Most of the actual structure itself will be wrapped in a skin of zinc panels, interspersed with LED panels controlled by the building's information systems. But there will be one glazed wall, through which you'll be able to see the three cinema screens inside.

It is promised that artists will always be at the core of the FACT Centre – they will actually make art inside the building, and will then present it through exhibitions, screenings and discussions. Better than the Tate Modern? You'll have to wait until summer 2002 to find out. ca

For more info: [t] 0151 709 2663, [e] fact@fact.co.uk, [w] www.fact.co.uk

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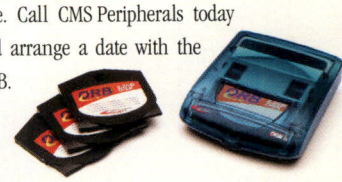

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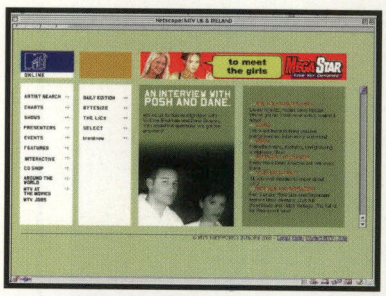
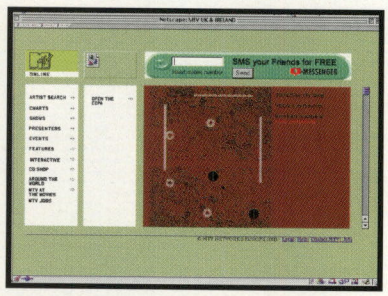
MTVi UK appoints BlackID

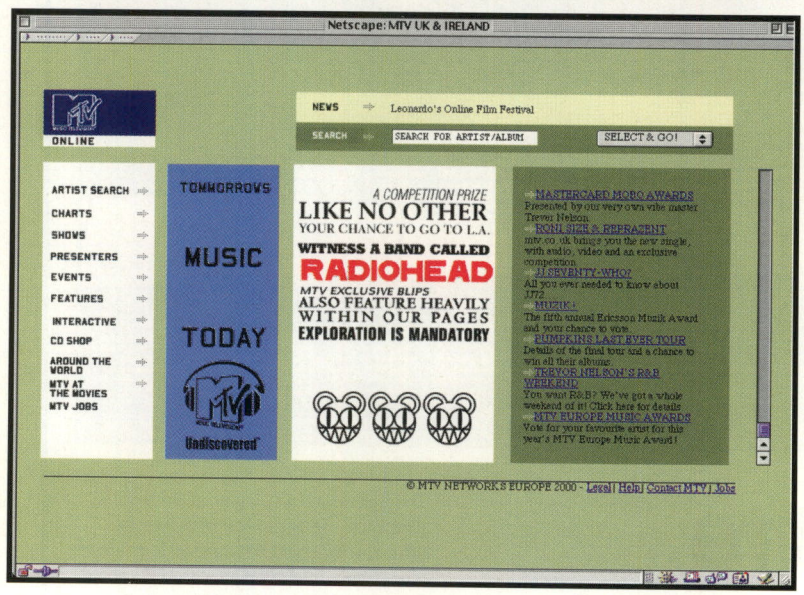
BlackID brings impressive design innovations to revamped MTVi UK...

Award-winning media company BlackID has completed work on a new Website for the UK department of music giant MTV. More than just a facelift, the company's brief was to significantly improve the design of the site from the grass roots up. It's due online in December and is set to double the size of MTV's existing UK presence.

Because BlackID saw off stiff competition from other UK agencies, the win represents a major scalp for the company's portfolio, which also includes Channel 4, Bacardi and Burger King. Ross Cairns, BlackID's Client Services Director, explains: "The current MTV site didn't offer enough flexibility for delivering significant amounts of content. Our pitch was successful because we presented several very different concepts which all addressed this issue, as well as projecting the MTV brand values," he says. "We also recognised the need to work very closely with MTV on the project, rather than in isolation, and this helped immensely."







Brand positioning

Branding is clearly dear to MTV's executives, and the television channel's rapid-fire design and distinctiveness kept BlackID on its toes throughout the consultation process. "On one hand, the site is all about delivering pertinent content to a clearly defined group. On the other, it's about expanding and enhancing the site's appeal to an audience of active, lively and loyal music lovers," Ross adds.

MTVi UK is reportedly delighted with the agency's work, and Chris Sice, MTVi UK's Managing Director, praised the interactivity and intuitiveness of its design: "MTVi UK needs to make its presence on the Web as compelling as MTV the channel is to its viewers," he says. "Excellent design is the channel's hallmark, and BlackID has come up with a concept that marries good design with a high level of interaction and 'stickiness'."

The site's content is to blend hot-off-the-press news with excerpts from videos and interviews, while retaining the portal aspects of the present site. Services such as charts, features, MTV at the movies and, of course, a CD shop are expected to remain. ca

Black ID's update to MTVi UK's site is scheduled to be launched in December. Visit [w] www.mtv.co.uk for more information, or contact Black ID at [w] www.blackid.com

Computercreative.com

Future branches out with new creative portal...

Computercreative.com is Future Publishing's creative online network, based on its creative computer titles – including *Computer Arts*, naturally. Alongside our good selves, computercreative.com brings you the best of *3D World*, *CreateOnline* and *Mac Format*, and more magazines will be represented on the site as and when Future's portfolio expands.

Essentially, computercreative.com is a portal for the creative community that's inspired by our titles, and it aims to provide a comprehensive resource for the online creative user, with buying advice and reviews, tutorials, news, creative services and recruitment. In addition, the site aims to supply the best and latest news for the entire creative computing market. Plus, computercreative.com has industry comment in the shape of a regular Soapbox column, where respected journalists air their views on the pressing issues that face the creative computer user.

But it doesn't end there: the site is being developed further still, and new features, faces and resources will be added in the coming months. Just keep checking the site for updates. ca

Visit [w] www.computercreative.com for the latest information, or email your comments and enquiries to [e] ccomments@futurenet.co.uk

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Adobe

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Britannia's new animal campaign

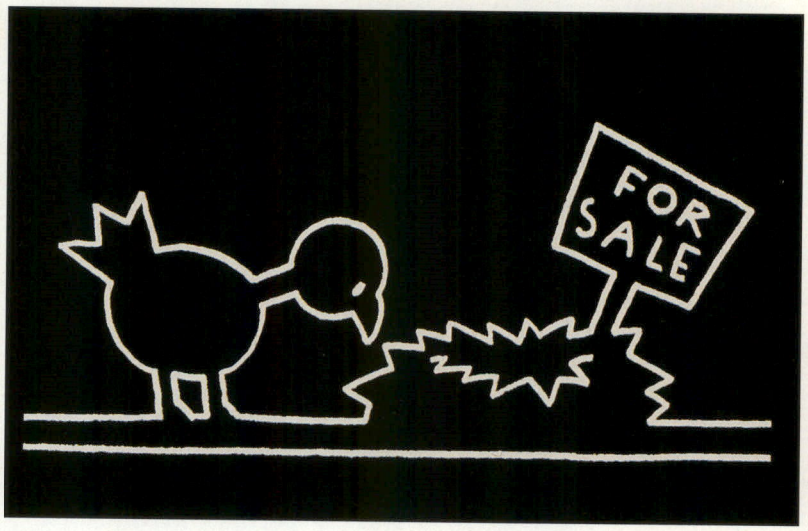
Cartoon creatures used to advertise mortgages...

Britannia Building Society's new ad campaign has just been completed by Ged Haney and Andreas Hykade of Passion Pictures. Called *Bird*, *Spider*, *Tortoise* and *Snake*, Haney and Hykade's simple hand-drawn images explain the different kinds of mortgage products offered by Britannia.

For example, the spider's flexible mortgage enables him to take a paid holiday when he injures himself falling off a ladder while doing DIY... as spiders do — eight legs can be so confusing sometimes. Meanwhile, The Bird finds her ideal home (a semi-detached nest with two receptions and a mezzanine-level cloak, we assume), and is helped with both conveyancing and security before taking a paid holiday when three chicks arrive unexpectedly. Although how chicks can arrive 'unexpectedly' is anyone's guess — she sounds like a right flighty one.

Haney and Hykade created the bold graphic look by tracing the characters onto paper with a thick freehand pencil line, which was then scanned and reversed out in *Soft Toonz*. The toons are already being aired, so keep an eye out for an ad-break near you. ca

You can get further information about the ads by calling [t] 020 7323 9933, or by emailing the company at [e] info@passion-pictures.com

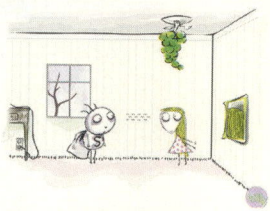


Stainboy

Tim Burton gives *Shockwave* a whirl...

One of Tim Burton's latest projects is an animated series, currently being shown on the *Shockwave* site. Better known for such darkly comic films as *Edward Scissorhands*, *Ed Wood* and *Sleepy Hollow*, the director is no stranger to animation after the success of his full-length stop-motion fest *The Nightmare Before Christmas*. However, *Stainboy* is the first series Burton has produced himself, and the auteur has remained faithful to his gothic tendencies. The eponymous hero is a little boy who has the power to create, um, stains. In the first episode, Stainboy comes up against Staregirl in a staring contest — you can check out how he gets on by visiting the site at [w] www.shockwave.com

More episodes featuring the blotchy superhero are in the pipeline. Meanwhile, *Stainboy* is also expanding into games (you can try and outstare Staregirl yourself, for instance) and postcards. There's even poetic info on all the toon characters, presented in typically bleak Burton fashion. Unmissable. ca



Catch the latest episode of Stainboy at [w] www.shockwave.com

Fonts

See here now

Although not the most glamorous of fonts, the Tiresias family of typefaces could certainly come in handy when trying to communicate digitally to those with disabilities. The family has been specifically designed to maximise legibility on screens, labelling and signage and comes in four flavours: Tiresias Screenfont (a font specifically for digital television), PCfont (for screen systems in general), Infofont (for various information labels), and Signfont (for, yes, you guessed it, signs).

Each typeface's primary aim is to provide characters that are easy to distinguish from each other and that generate clearly on all screen technologies. Throughout the design process many key factors that affect legibility were studied, including character shapes, display structures and effects of current technologies and inter-character spacing. The family stands by the phrase that "good design for disabled and elderly people is often good design for everyone" — and you can't argue with that, can you? Tiresias is available from Bitstream fonts at [w] www.bitstream.com for the rather tidy sum of £32. Alternatively, call [t] 01242 227 377.

Tiresias Screenfont
ABCDEFGHIJKLM
abcdefgh12345

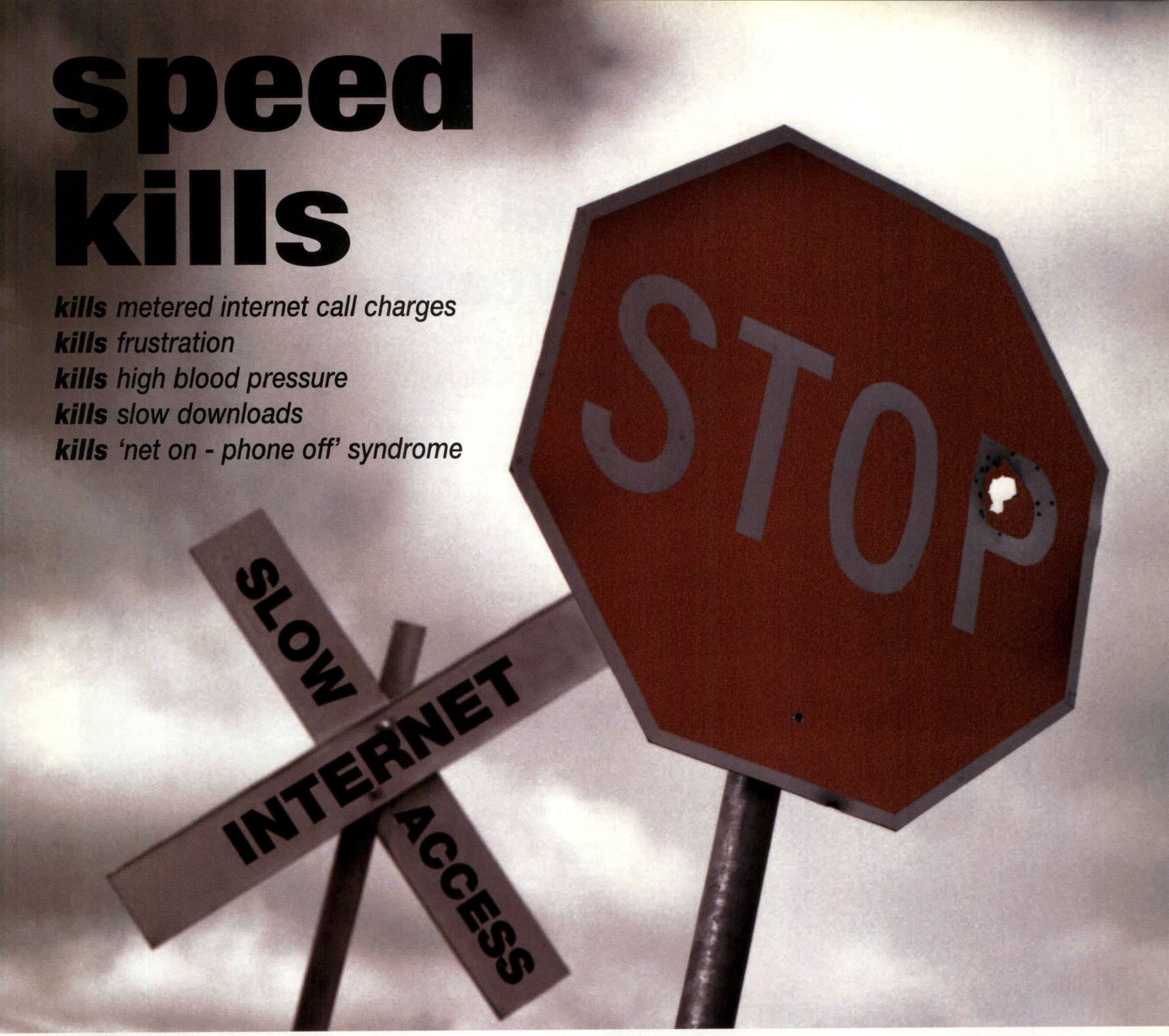
Tiresias PCfont
ABCDEFGHIJKLM
abcdefgh12345

Tiresias Infofont
ABCDEFGHIJKLM
abcdefgh12345

Tiresias Signfont
ABCDEFGHIJKLM
abcdefgh12345

speed kills

kills *metered internet call charges*
kills *frustration*
kills *high blood pressure*
kills *slow downloads*
kills *'net on - phone off' syndrome*



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Fujifilm digital camera showcase

A digital Single-Lens Reflex and a funky new four-megapixel camera enter the digital fray...

Fujifilm has just brought out a new range of digital cameras, two standouts being the FinePix 40i and FinePix 4900 Zoom, both of which provide cutting-edge digital capture, and a batch of crowd-pleasing features from MP3 playback to SLR functionality.

i of the beholder

The 40i is a good-looking, high-res compact camera, which comes equipped with MP3 audio playback and movie clip capability. The Super CCD image sensor, complemented by a Super EBC Fujinon lens, ensures the 40i provides pictures of impressive clarity and resolution (4.3 million pixels). In addition, you can store up to 80 minutes of audio playback on the 64MB SmartMedia memory card, while built-in encoding software protects copyright, so music saved is safe from duplication.

But there's more. You can also use the 40i as a digital camcorder – to capture eight-second bursts of movie action with sound: in total you can record up to six minutes of video on your memory card, and then play it back through a TV or send it over the Internet. You can also preview still pictures and films via the LCD panel on the back of the camera. USB connectivity is also standard (although Fujifilm does offer an optional floppy disk adaptor if you have no suitable port).

Available in metallic blue or silver, the FinePix 40i costs £550 and is due out now.

Fujifilm's unique MD-like FinePix 40i, complete with MP3 features, and the higher-end 4900 Zoom.

Zoom with a view

The 4900 Zoom is another digital camera, but this time for 'serious' photographers (as opposed to flippant types, presumably). It boasts all the tech specs of a traditional SLR, alongside innovative digital features, including a miniature LCD through-the-lens viewfinder, multi-mode automatic exposure with full manual overrides, flash hotshoe connection and a manual focus ring. And while it may use an intuitive interface that puts all commonly accessed controls at your fingertips without resorting to on-screen menus, it still maintains the look and feel of an ordinary SLR.

The 4900 Zoom has five programmed exposure modes: Auto, Portrait, Scenic, Night Scene and Sports. But if you want more control, you can opt for the more flexible program mode. In all cases, the on-screen display – either on the TFT monitor or via the through-the-lens viewfinder – shows full exposure information, ensuring what you see through the lens is what you get come the final shot. Semi-automatic and fully manual exposure is possible by switching to Aperture Priority, Shutter Priority or full manual.

The 4900 Zoom uses a newly developed 6x Super Electronic Beam Coating Fujinon lens, with a focal distance equivalent to 35-210mm on a normal 35mm camera, which can be extended in the VGA mode to 800mm. The lens was developed to optimise the output from the camera's 2.4m pixel Super CCD, includes two aspherical lenses, and features extremely low chromatic aberration.

Available now, the 4900 Zoom comes in a metallic grey finish and costs £800. ca

You can get more information on both cameras from [w] www.fujifilm.co.uk

Hardware

Elonex PCs Me

PC manufacturer Elonex has announced that it's now offering its customers the latest Windows Millennium Editions (Me) operating system. Me is a new version of Windows designed specifically for homes users, with features such as *Movie Maker*, *My Pictures* and *Media Player 7*, as well as Internet Explorer 5.5. Windows Me is available from Elonex immediately on its ProSentia Desktop, and Piranha and Soliton Notebooks. [w] www.elonex.com

FinePix 2400

At the entry-level end of the market, Fuji has just released the FinePix 2400 Zoom, alongside the higher-end 4900 Zoom and 40i. It features a 2.1-megapixel CCD, 3x optical zooming, continuous shooting and an automatic white balance, as well as USB connectivity. Not bad for £380. [w] http://home.fujifilm.com

Canon scanners

Canon has just introduced a new range of scanners, including the CanoScan D660U, which has a built-in film adaptor unit for both positive and negative 35mm film originals, and can deliver a resolution of up to 1200dpi. The D660U also comes complete with a software bundle that includes *ArcSoft PhotoStudio 2000* and Adobe *Acrobat Reader*, and only costs around £119. Alongside the D660U is the N1220U, allegedly the world's smallest 1200x2400dpi A4 USB scanner, with a footprint little more than a sheet of A4. It'll cost you £149. [w] www.canon.co.uk

Fujifilm FineScan 2750

Fujifilm's latest desktop scanner, the FineScan 2750, is aimed squarely at the professional mid-range user. Capable of scanning at an optical resolutions of up to 2743dpi, with a maximum resolution of 2500 per cent, it can enlarge 35mm transparencies up to A1 format, and comes bundled with *ColourKit 2750* for complete colour control. The scanner uses an unusual twin-lens system, too: one lens scans the entire image in one pass at 762dpi; the other scans in 100mm strips at 2743dpi. All this for just £7637. [w] http://home.fujifilm.com ca

The new VAIO range

Sony launches more notebooks, including one with an in-built camera...

Sony is bringing out a new range of its ultra-popular VAIO notebooks, ranging from an entry-level notebook which could set you back a mere £850, right up to £3300 for the flashy F809K model. Sitting comfortably toward the lower end of the pricing scale is the PCG-C1VE. This latest version is as sleek as its predecessors, but packs more technology in under that pretty purple casing. The C1VE is one of the first notebooks to feature a Crusoe processor, for instance, and has a digital camera built-in, complete with Carl Zeiss lens. And that's in addition to the 12GB hard drive, 128MB RAM (expandable to 192MB), and 8.9-inch TFT LCD screen (1024x480). It even finds space for an integrated Memory Stick and high-speed FireWire interface.

Say cheese

But it's the in-built camera that's causing a stir. You can rotate it through 180 degrees to capture still and motion pictures, and with additional software and ISDN access, you can even use it for video-conferencing. As far as bundled software goes, the C1VE also comes equipped with Sony's *3D CyberCode*, to help find and open documents, *Movie Shaker*, to manipulate digital movies and stills – and, of course, the Windows Millennium OS.

Playback of videos and images is enhanced with an 8MB video RAM and 3D accelerator support, *DVgate* software and *PictureGear*. Sony's C1VE is available now for just £1496. ca

You can get more detailed information on any of Sony's new VAIO notebooks at [w] www.vaio.sony-europe.com or you can phone [t] 0990 424 424.

Mitsubishi monitors

Three new monitors, including a nifty 18-inch LCD...

Mitsubishi has launched a new line of monitors, both CRT and LCD, ranging in size from 18 to 22 inches.

CRT-wise, there's the latest 19-inch monitor, the MS95F. This model has an ultra-flat picture tube for increased brightness and improved contrast, plug-and-play capability, and permits simplified inventory creation and administration in networks via the asset management function.

Alternatively, you could opt for the 22-inch Diamond Pro 2045u. Like the 2040, the 2045 comes with the DiamondTron screen, which is exceptionally flat and provides accurate, sharp pictures with reduced light reflection. It supports all PC, workstation and Apple resolutions, and has optimal screen purity, thanks to its integrated Auto Gauss Clear function which can detect horizontal and vertical magnetic fields, and can compensate for shifts in beam landing and misconvergence caused by typical interference patterns.

At the top of the range is the LCD1800, which sports an 18-inch LCD – which is equivalent to a 21-inch CRT monitor. It features a new colour algorithm, with automatic colour calibration and six-axes colour control. It also provides a video mode so you can watch DVDs and animations at the highest standard.

The MS95F costs £293, The Diamond Pro 2045u around £845, and the LCD1800 around £1961. ca

For more information, contact [w] www.nec-monitors.com or [w] www.mitsubishi-monitors.com

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Infernal Music

Glassworks adds a touch of glamour to Madge's latest video...

The video for Madonna's new single, *Music*, is the result of the combined efforts of Director Jonas Akerland and *inferno* Operator Peter Marin from Glassworks. Marin used green-screen techniques to emphasise the retro and glamorous theme.

The overall look of the video is supposed to be 'ghetto glamorous' with the colour gold predominating, combined with the 70s influenced outfits, props and graphics. Marin used *inferno* to composite the green-screen studio footage from inside a stationary limousine with a night-time city skyline, adding motion effects where necessary.

Marin admitted that this was the most time-consuming part of the job, as so much of it was set in the back of the limo. *inferno* was also used to create the retro graphics that flash up during the video, as well as the customised wipes created from the silhouettes of Madonna and the lapdancers, and the reflections of the dancers that appear in the cocktail glasses. If you haven't yet managed to see the video, it's worth checking out the *Shockwave* site where you can watch a groovy interactive *Flash* version. ca

You can watch the video at [w] www.shockwave.com, or get more information about Glassworks from the company's Website at [w] www.glassworks.co.uk

Photovista 2.0

MGI's all-rounder receives an update...

The Canadian firm MGI has just announced version 2.0 of its panoramic image-generating software, *Photovista*.

Intended primarily for companies wishing to effortlessly grace their Websites with virtual tours, product interiors or immersive landscapes, the latest version features functional enhancements for Web designers which have convinced Macromedia to include the software with all copies of *Dreamweaver* and *Director Shockwave Studio* in the very near future.

Photovista creates panoramas by adjusting and blending overlapping still images and stitching them together to form a 360-degree wraparound scene. The software can use stills taken directly from any digital camera, camcorder or scanned from photos, and the output can be combined with MGI's ZOOM server to deliver immersive high-res images. *Photovista's* Web file sizes are impressive when compared to other VR file formats, weighing in at a typical size of 100K or less, and are viewed through a downloadable Zoom Java applet or plug-in viewer, available from MGI's Website. Other design benefits include an automated HTML preview and code generator, plus support for over 100 camera lenses. Custom lenses can also be created to offer more control. ca

Photovista, available for Windows 95/98/NT/2000 with a Mac version imminent, costs £50. For more info call MGI on [t] 0800 973 830, or visit the Website [w] www.mgisoft.com

Software

ColorBlind software

Typemaker has announced that the new Mac versions of *ColorBlind* are now available. The updated Mac products – *ColorBlind Professional 4.0, ColorBlind Edit 3.0, ColorBlind Edit Server 3.0, ColorBlind Matchbox 4.0* and *ColorBlind Matchbox Plus 4.0* all offer improvements in speed, device profiling, greater stability and compatibility for Mac systems. Existing users of *ColorBlind* can upgrade for a small charge at Typemaker's Website: [w] www.typemaker.co.uk/upgrades

Network Storage Server

Maxtor has introduced a new network storage server, the MaxAttach NAS 4000, which holds up to 320GB of data in a 1.75-inch high box. Available for around £3249, it offers file serving and data storage relief that installs in less than ten minutes with no network downtime. According to the company, NAS (network attached storage) servers should appeal to ASPs and ISPs because the streamlined OS and highly-tuned file system increase network performance and offload application server functions. Check it out for yourself at [w] www.maxtor.com

Optiverter

Spinwave has released a Windows version of its *Optiverter* software, which provides batch optimisation of JPEG images and can save up to 90 per cent in file size and download time. Optiverter can process thousands of images per hour, and is the first software to be able to reliably do so automatically without compromising the quality of the photos. It includes the same engine used in Sinwave's *Cruncher*, and the result is highly optimised images that download quickly but still retain excellent quality. Further details at [w] www.spinwave.com

StudioDVdisc

Pinnacle Systems has joined forces with Philips to create *StudioDVdisc*, a software that will enable camcorder users to burn their own camcorder movies onto a CD-R or CD-RW and play them on Philips DVD players. For more info go to Pinnacle's Website at [w] www.pinnaclesys.com ca

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Epson Double

Stylus Pro printers boast new ink technology...

Epson has released two large-format printers incorporating revolutionary new ink technology. The Stylus Pro 7500 and the 9500 are to succeed the well-established 7000 and 9000 models in the professional photographic, point-of-sale and print-for-pay markets. Colour stability for printouts, vital to professional printers, is enhanced to the extent that the ink will not fade or colour shift for up to 200 years, though how Epson knows this for sure is not made clear.

This long-term benefit is produced within a short time after printing, and other advantages over rivals include very wide colour space compared to existing dye-based print systems, very fast 'drying' of prints and, needless to say, outstanding print quality. The main difference boils down to size considerations.

The 7500 prints on 24-inch wide print media from one paper roll, and supports cut-sheet media from A4 up to A1+ size. The 9500 is the bigger brother and for an extra £4300 delivers printouts up to 44 inches in width from two paper rolls, supporting media from A3 to B0+ size a 76 per cent increase over other large-format printers. Both can be used with multiple platforms and network environments, and theoretically a single Pro 7500 and 9500 can be connected simultaneously to a network using both Windows and Mac operating systems. ca

The Epson 7500 costs around £4812, and the Epson 9500 is approx £9864. Contact Computers Unlimited at [w] www.unlimited.com or call [t] 020 8358 5857. You can find more on A3 printers in our Group Test on page 100.

Epson claims that the Stylus Pro 7500 and 9500 printers produce inks which last up to 200 years.

Deepend

Deepend designs Magic Factory for kids...

Digital design company Deepend has produced a new Website, Magic Factory Online, which aims to teach kids about the science of light and colour by using five *Shockwave*-driven games. The project draws inspiration from the Magic Factory gallery at the National Museum of Photography, Film & Television in Bradford, and is the second collaboration between the two companies following the agency's design of the museum's official site in 1998.

The five games reflect the National Curriculum, and relevance to the principles of Key Stage 2 was integral to Deepend's brief. *Photoshop* and *Illustrator* were used to create the games' star bug, a quirky gum-chewing futuristic insect called Glowbug. Once imported into *Director*, the game had to blend these cartoon graphics with the educational brief.

Andrew Leith, Creative Director of Deepend, says: "The biggest creative challenge was to put ourselves in the position of a young kid and develop ideas that would appeal to them rather than just to us. Kids don't get the same fear when using computers, so we were able to convey the principles of the games without dumbing-down the interaction." ca

Deepend's Magic Factory Online can be played by heading to [w] www.magic-factory.co.uk, and is to be re-packaged for teachers as a separate classroom resource with extensive notes and support.

Events

From now...

A world, a moment – an installation by Tomato
October 18–January 21

Tomato is holding a site-specific installation at the Cube gallery in Manchester, which is a collection of work concerning the group's 'continuing process of their collective and individual journeys'. Get more info from [w] www.cubeuk.org

November

IDEA 2000 – The 2nd International Digital Exhibition and Awards
October 24–November 4

The winners of the second IDEA Awards will be announced on 24 October at the Association Gallery in London, with an exhibition of work by photographers and system operators running for a further three weeks. The awards coincide with the launch of the IDEA Website, where all finalists and winners will be announced. Have a look at [w] www.idea-awards.net

D&AD's Annual Show
November 7, 8, 9, 10 & 12

An exhibition of design from TV to product design, plus awards on 6 November held at the Royal College of Art in London. Check out the Website for more information [w] www.dandad.org

The London Effects and Animation Festival
November 14–16

An international line-up of speakers will share their latest creations and techniques over the three-day event. Plus, there'll be a host of seminars, panels, masterclasses and an award ceremony. Held at Olympia, Kensington – check out the Website for more at [w] www.digmedia.co.uk

flashforward2000 and Flash Film Festival
November 27–29

Three days of exhibitions, training and seminars showcasing *Flash* and *LiveMotion*, alongside a celebration of the world's best *Shockwave* creations. At the National Film Theatre – check out [w] www.flashforward2000.com or [w] www.flashfilmfestival.com ca

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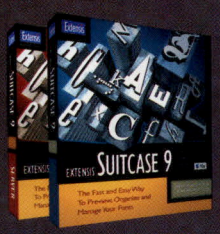

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Websites

www.imagedigest.com
A regularly updated Web portal containing a compilation of the best online image sites.

www.futurewebsonics.com
A music library providing royalty-free tunes that can be sourced quickly and cheaply. Terribly good-looking, with funky tunes and nice navigation.

www.cleverdicksdirect.co.uk
Recruitment site (free for recruits, thankfully), advertising positions in TV, publishing and new media.

www.designworkstudios.co.uk
A Web design house offering quality tailor-made sites for both small businesses and large corporations alike.

www.bionic-systems.com
German site plugging the talents of a couple of graphic design students. Watch out for scary electronica music.

www.preloaded.com/v2/index.html
Gorgeous site, although a tad tricky to discover exactly what it was on about... but it says here that they 'provide consultancy and creativity across media'.

www.oggimodfurn.com
Online shopping with an Italian feel. Modern furnishings presented in *Flash* with nice plinky plonky navigation.

www.lookandfeel.com
A fantastic *Flash* site offering its wares: this time in Web design, marketing, e-commerce and the rest. Look out for Luke and Phil...

www.paradeofshoes.com
Foot fetishist? Shoe slave? Stop hanging around Barratts for a quick fix, and bookmark Parade for the last word in leather-uppers and rubber soles.

www.harvey.com
Plinky navigation and the cutest toons this side of *Rugrats*. Join Casper, Richie Rich et al for some time-wasting.

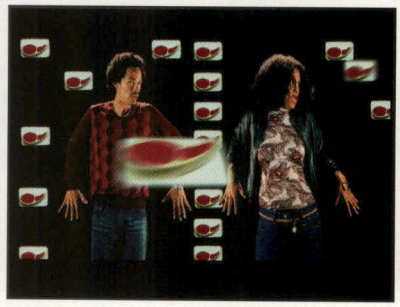
Cherry pop

Neneh and Eagle Eye take the *Long Way Around*...

The video for Neneh and Eagle Eye Cherry's latest single, *Long Way Around*, has just been completed by The Moving Picture Company. It's set in a virtual supermarket, and is symbolic of our consumerist world and how we are bombarded with imagery and labels in order to persuade us to spend our cash. Neneh and Eagle Eye performed against a green-screen for the main part of the shoot. They were then keyed into a black limbo dreamscape that had been generated in *inferno*.

Individual items were also shot against a green-screen, rotating on a rig, and these were then multiplied by up to 30 times and made to fall towards the artists by creating a pathway for each item and scaling it down using a DVE, all in *inferno*, before motion blur was added. A moving rig made up of thin rods was placed around the artists, which helped with their eyelines and meant that the products could be more easily allocated a position in the frame. The end result is a video in which Neneh and Eagle Eye are bombarded by products in a 'daydream', only to return to the safer reality of pushing a trolley down a supermarket aisle. ca

Long Way Around is released on 16 October. For more info, email [e] mailbox@moving-picture.com or visit [w] www.moving-picture.com

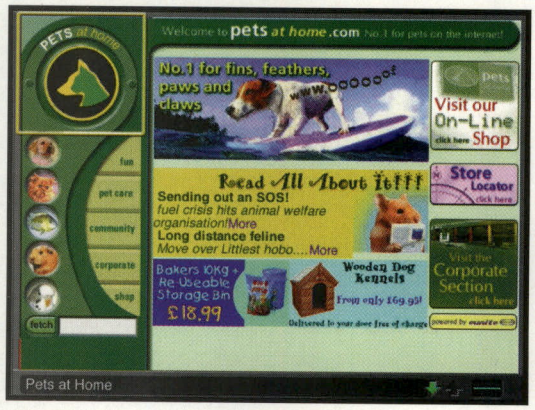


Tellytest

Test your sites' set-top box suitability...

Eunite, a UK-based interactive TV convergence specialist, is offering a service to Internet companies which analyses how sites behave when accessed via a set-top box or games console.

The recent spate of interactive TV products, as well as the coming generation of Web-enabled consoles, is a prompt for companies to ensure that their beloved sites don't fall foul of refresh rate, font size, screen resolution and plug-in variability in the new display environments. Scott Davies, Eunite's Creative Director, warns of a pandora's box of evils : "Some colours such as white may distort images, other very strong colours can damage the TV set, and still others can't even be reproduced. Eunite will highlight any issues and provide guidance for modifying Websites to fully utilise interactive TV."



Tellytest will discover which colours may disort or damage your television.

Telly Test is set to become the industry benchmark for the future implementation of Internet content, not just on interactive TV and consoles, but on a range of possible media. WAP devices using online content will also be covered by the test's criteria. ca

The Telly Test costs around £5000 and takes roughly four weeks to test. For further information, visit the Website at [w] www.tellytest.com

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*N50 LCD Display shown with media box

Sim Chatham

How a British art college contributed to one of the world's biggest-selling computer games...

When Electronic Arts – the largest publisher of computer games in the world – decided to produce a UK version of its hit title *Sim City 3000*, it didn't turn to a major firm of British architects to design the buildings for the game. Nor did it hire in an established 3D design or games studio. Instead, the company teamed up with students and researchers at the Kent Institute of Art and Design. And although the young bucks were untried the move paid off – 30 original building designs by the KIAD folk are now included in the UK Edition of *Sim City 3000*, which ships this month.

Training exercise

The project began life as a simple research and training exercise, with no guarantees by Electronic Arts or *Sim City*'s developer Maxis that KIAD's work would feature in the game. But according to EA's Paul Jackson, who liaised with the college, it wasn't long before the potential of the students shone through. "Very quickly, the quality of the work improved to the level that we thought we could use this material – and it seemed wrong not to use it," he said. "In fact, Lucy Bradshaw, who is the head of Maxis Studio in California, visited KIAD and said to me, 'The work is beautiful.' Those were the words she used. That's not a phrase we often use in our industry. It's not a games industry phrase."

The new structures were intended to cover a variety of British architectural styles, ranging from Tudor cottages to 60s tower blocks. According to Ed Finucane, the research student who led the project at KIAD, inspiration came from strolls around Chatham, and architectural books in the Institute's library. Players will be able to recognise the generic British styles among the buildings, and should feel at home shaping tracts of urban Britain, rather than the US cities of the original game. "Many buildings are variations on buildings that exist," explains Ed. "With a lot of the photos you'd only get a couple of shots, so I'd then develop the buildings from there. They'd be variations on existing buildings but not exact copies, so to speak."

The artists started off using the building editor built into the game, but soon moved to *3D Studio Max 3.1*. However, they then had to step back to version 2.5 in order to use the same plug-ins as Maxis employed on the original. And because of the way the game is designed, all 30 objects had to be rendered a total of 18 times. This was so players could view the buildings from the gameplay's four isometric angles at varying levels of detail. Maxis supplied a plug-in to help do the job. "We used a plug-in called *Dirty Reyes* as well, to give a dirtier edge to the buildings, and rough them up," adds Ed.

The new structures intend to cover a range of British architectural styles

Sim City 3000's British upper crust are well-catered for with whopping great mansions like this one.

MA gameplay

Its successful involvement with the project has led to new ventures for KIAD. Off the back of the co-operation with Electronic Arts, the Institute now plans to run a postgraduate course in designing artwork for games software. The course is to be partially funded by EA and will enable ten students to apply their talents in a new interactive studio.

For Ed Finucane, a background in model-making rather than an in-depth knowledge of 3D software is what helped him make the project a success. "I thought I'd mention the usefulness of the model-making I did here beforehand," he says. "It enabled me to develop my 3D skills in a physical sense, which I could then translate directly into computer 3D modelling. Even though it was a non-computer-based course, it gave me a good background in using 3D programs." ca

Sim City 3000 UK Edition sells for £34.99 and is available from Electronic Arts at [w] www.ea.com For more information on the Kent Institute of Art and Design, contact [t] 01634 830 022 or visit [w] www.kiad.co.uk

Little and large

Here's a render of a Regency terrace as created in *3D Studio Max* by the Kent Institute of Art and Design...

... and here the fancy terrace slots into *Sim City 3000* itself (top left), along with a range of other British buildings.

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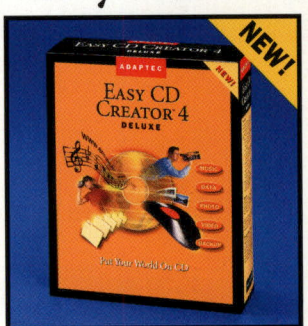

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SIZE COMMUNICATION

One of many high-res scans taken into DS for a documentary on artist Evelyn Williams. P3 then recreated rostrum-type moves for the programme within DS, freeing the company from all the constraints of working with the original artwork.

P3 Post

The editing house that's been 'totally non-linear' from the start is thinking of change...

As far as promo material goes, few Soho companies can lay claim to gracing theirs with a quote from ex-Soviet leader Nikita Khrushchev. P3 Post, however, has the following salutary warning glaring from the top of its brochures: 'What scientists have in their briefcases is terrifying'. Khrushchev, it is fair to say – a man who went toe to toe with JFK during the Cuban missile crisis while the world watched and prayed someone would blink – knew what he was talking about. P3 thinks he did as well, the tagline being that 'P3 Post takes the fear out of technology'.

Non-linear editing is now so entrenched and widespread at all levels of the industry – from extreme high-end to people fiddling about with their wedding videos on an iMac – that it's hard to think of a time without it, and perhaps even harder to think of people still being wary of the technology. But wary they are.

Old industry hands still enjoy telling tales of when when Avid pitched up to Amsterdam's IBC exhibition for the first time with only one tiny booth in tow — the implication sometimes being that things would have been better if it had stayed that way — or even reminiscing about the joys of one-inch tape. P3 is very much about the transition from one to the other.

"Our motto is 'totally non-linear'," says MD and Technical Director Paul Hutchings. "In terms of creativity, we've always seen totally non-linear as not just describing the technology we work with, but our approach to doing editing too."

In the beginning

Hutchings and Facility Director Martin Price first worked together in 1982, when both were working as stills rostrum operators. Careers in photography beckoned, working largely for the corporate market.

"Before video reached a reasonable level of quality, people did presentations to large crowds using multi-projector slideshows," explains Hutchings, with Price going on to add that some of these could reach true extravaganza levels.

Over the years, their paths continued to cross as their freelance careers developed in the burgeoning AV industry. The corporate sector was one of the first to take to video — largely because it didn't need a format that was broadcast quality — so the pair developed skills along the way in production, stills and video camerawork, and editing. By the end of 1993, Hutchings had already been trading as P3 for four years, operating a BetaSP shoot-and-edit service, assembling material in a home-based two-machine Beta suite and then hiring a proper online suite to add effects and captions. And it was around this time that he saw an early demo of Avid's first non-linear online system, the AVR 26.

"In retrospect," he says, "it wasn't very good, but it was good enough that people got excited about it at the time." More importantly, it offered an opportunity to not be a freelancer for the rest of his life and to set up his own edit suite. "It was the first Avid sold that did picture quality — that is, it was aimed at being able to finish a programme rather than just offline it. Non-linear was revolutionary enough, though, that in the

"We've always seen totally non-linear as not just describing the technology... but our approach to doing editing too" – **Paul Hutchings,** P3 Post

1. BBC comedy *Bruiser*. Hairs, scratches and other 'old film' effects are all created in *DS*.

2. Title work for MTV's *Ibiza*. Design was by Andy Cole, the Creative Director on *Big Brother* amongst others, and compositing by Phil Gadd on *DS*.

3. The Tardis appears in Dorking chalk pits, yet again thanks to some quick comping work.

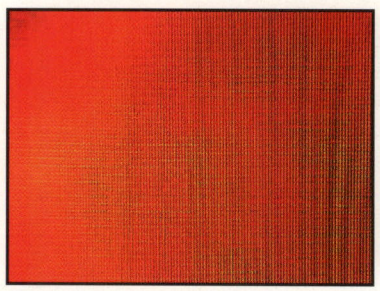
4. Sting from *Dr Who* Night for BBC2. One model had been shot in various passes, but the camera had been bumped at one point. Ten hours were required in *Editbox*, eventually to stabilise the image and composite the various layers.

5.Promotional and ident work for Fox Kids. Loop provided a stack of 2D and 3D elements, all assembled over five days using *DS*.

6. A Foo Fighters gig for MTV. The concert was filmed using timecode-synced cameras, then edited using Avid's MultiCam offline equipment, enabling editors to split the screen and see each individual camera live. Online effects from *Symphony*.

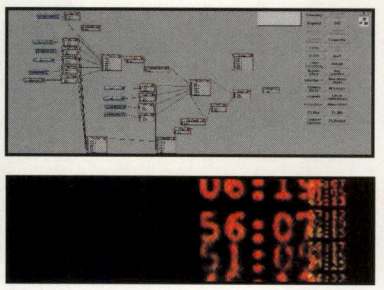
How P3 Post created... titles for The World is Watching, part 1

It took the P3 task force just one day to perfect 25 seconds of intro sequence...



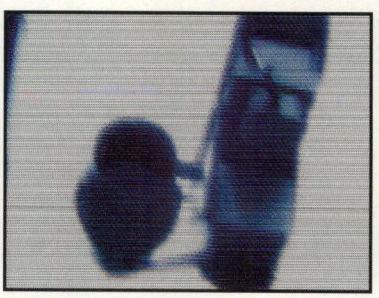
1 A texture is created by shooting an image on a TV screen extremely close up. Field effects and contrast are added using *DS*.

2 The texture is then added to an animation of numbers, created to count down at different times depending on when they are inserted on the timeline.

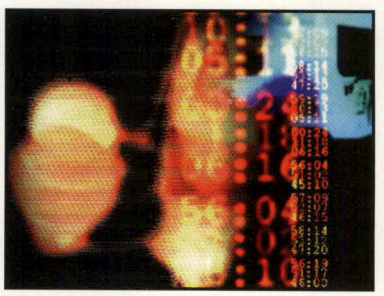


3 Using DS, the numbers are manipulated with a variety of DVE moves, blurs and colour corrections, as illustrated by the tree on the left-hand side of the DS screen. Ten layers in total are required for the finished effect.

4 The blue area in the corner is created using *DS*' painting tools and then added in as a mathematical comp. According to Phil Gadd, the *DS* painting tools make it easy to create shapes and brush strokes, and can be plugged into the tree to make intricate mattes quickly.



5 A security camera is shot on DV, with TV lines and interference added to make it look more like a genuine security cam pic.



6 The final comp with all elements added. The total intro sequence lasts approximately 25 seconds and took Gadd just under a day to finish. "Not bad time at all," he says.

1

2

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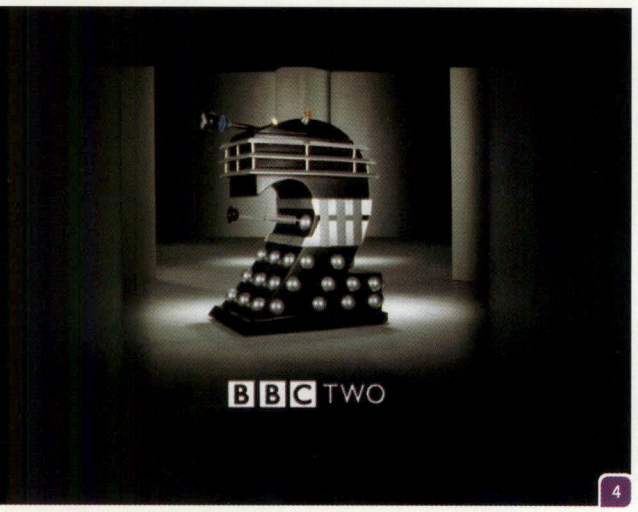

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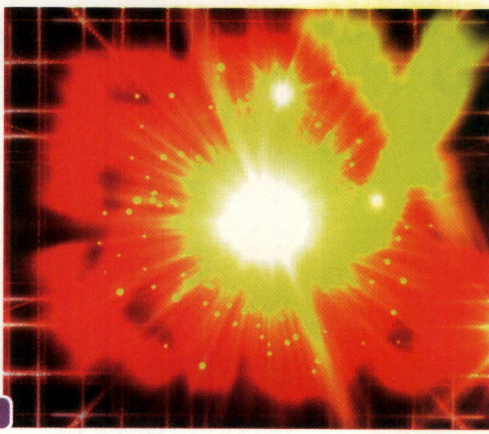
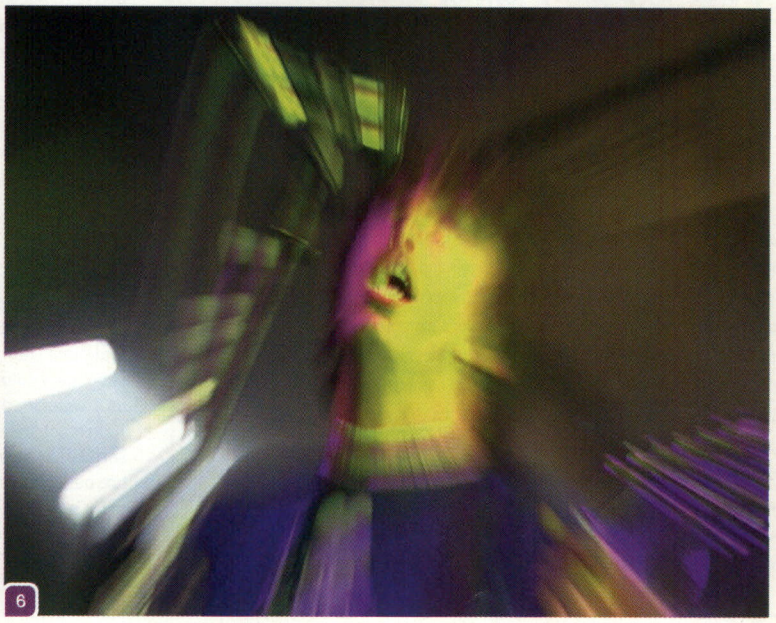




6

corporate market when I set up my first edit suite, within about three weeks of opening I was fully booked indefinitely. That's what prompted us to turn it into a real facility. Within about two or three months I didn't have the spare resources to keep marketing it or even do the invoicing."

Hutchings and Price are sitting taking in *Edit 9*, at the top of the company's present six-floor building in Lexington Street in the heart of Soho. Originally their entire operation fitted into a room about the same size, Price sitting on the sofa when the clients weren't there chasing more bookings on the phone. Via an accountant friend, they also managed to chase some finance via the DTI in late 1994, who was impressed enough by the P3 business plan to underwrite a £250,000 loan. Thus in February 1995, P3 Post opened for the first time in its new 1300-square foot facility, home to three Avid suites and a tiny machine room.

Horses for courses

It's safe to say that NLE has taken off a bit since. Lexington Street is 5500 square feet, into which – and another offline building, P3 Outpost, across the road – P3 Post has crammed 35 people and 14 edit suites; two Avid|DS suites, two Avid *Symphonys*, one Quantel Editbox, four Avid *Media Composer 9000*s, and five Avid *Media Composer* offline units. Downstairs in the machine room, the company has installed two Avid Unity systems with a combined capacity of 2.3 terabytes. They were full in a week.

"Someone once said that storage is like salary; however much you're given you need ten per cent more," says Hutchings with a grin. "All the actual kit is kept in the machine room. The suites in the main building were made to be thoroughly interchangeable and, apart from the Editbox room, are similar throughout, the company being able to switch different platforms into them at will. It is the people who go into them that really count though."

"We're not just suppliers of kit," says Hutchings. "We've got a really good team of staff editors, plus they're backed up with regular freelancers. Between them they have a hugely diverse range of skills and specialities; we've got people who are really good at music who might not be as good at multi-layered work on the Avid. It's horses for courses, but if you want creativity you've got to put the right people with the right kit on the right job."

The right kit for the right job is never cut and dried as far as NLE goes. P3 has plenty of projects in its files, like the recent stings for Channel 4's cricket coverage that have passed through *Symphony*, *Editbox* and *DS*. Hutchings characterises the systems as follows: "*DS*," he says, "is excellent for short-form work (typically commercials and promos), particularly when you've got a lot of diverse ingredients in varying formats you want to pull in. Plug-in range is massive, and, while it's still slightly slow, the new distributed rendering in v4.0 – which P3 beta-tested – should speed things along a bit. *Editbox* is again a shortform specialist, with superlative DVEs and toolsets and with a performance level right up at the screaming range. *Symphony*, meanwhile, attracts the longform work. Anything offlined on Avid goes straight in automatically with all data intact, and v3.0 – another beta test – introduces real-time Ultimatte motion tracking, stabilisation and secondary colour correction." Hutching refers to this as a 'watershed release'.

In much the same ways that the capability of the software evolves, so too do the nature of the jobs that are being pushed towards the suites. Phil Gadd is one of P3's *Avid|DS* operators. "It's gone away from the days where it was, 'Oh let's have a warp, let's have a fast blur'," he says. "Directors are becoming more aware of content rather than effects and what the software can do. They're wanting you to become very design aware

> **"Someone once said that storage is like salary; however much you're given you need ten per cent more"** – **Paul Hutchings,** P3 Post

Avid|DS

Almost an old *flame*...

Avid|DS has never quite fulfilled the promise with which it burst onto the post-production scene several years ago. It is, however, getting faster, and P3 is looking forward to powering it with 733MHz processors. "The problem is that *DS* hasn't been as glamorous as *flame* and *inferno* because it's not as expensive," says Price, "but the skills are just as strong. You can't do everything you could with them on *DS*, but you can do an awful lot of it."

"It's missing some of the more powerful tools," adds Hutchings. "*DS* has a 3D DVE, but it's not a true 3D environment like you'd get on an *inferno*, where you've got cameras and perspectives and the ability to do things like warping using a mesh you put over a picture. Having said that, for anything other than really high-end effects work *DS* has a really comprehensive toolset, that – if you're talking about creativity rather than solving technical problems – makes it a really useful system now. It hasn't got everything you'd get in *inferno*, but that's why *inferno* costs something around five times more..."

Loop guru

3D from the tenants...

In one of those wonderfully serendipitous moments, new 3D outfit Loop was looking for space in London at roughly the same time that P3 was investigating various means of obtaining a graphics capability. The result? Loop rents space from P3 and the two firms have an 'agreement to collaborate', thus suiting both parties.

Loop consists of Steve Popplewell and Michael Gibbins, two ex-Digital Arts staffers, and in the company's short nine-month history so far it's worked on a number of high-profile projects with P3, including stuff for big-name companies MTV and Lloyds TSB.

The main software package in use is *LightWave 6*, with back-up from the usual 2D suspects including *After Effects* and *Photoshop*. "It probably covers about 98 per cent of what you'd want a 3D package to do," comments Popplewell on Newtek's 3D offering. "It's cheap, it's got a good, fast and nice-quality renderer, and we've rarely come across things we're unable to do with it. It has got quirks, but they're being ironed out in the newer versions. For that other two per cent, we know people who run *Maya* that we can bring in if we need to.

"Having said that, at the end of the year, if OS X is on schedule, we might look to something like *Maya*, because I do like the idea of running *Maya* on a dual-processor Mac."

1. Work from Loop, mixing 3D done in *LightWave* with a whole host of 2D work. Bubbles have been added using *Final Effects* in *After Effects* – what Popplewell describes as a 'two and a half-D system'.

2. A Tango ad edited on *DS* with large amounts of colourisation work, up-resed to film for cinema distribution and then promptly banned.

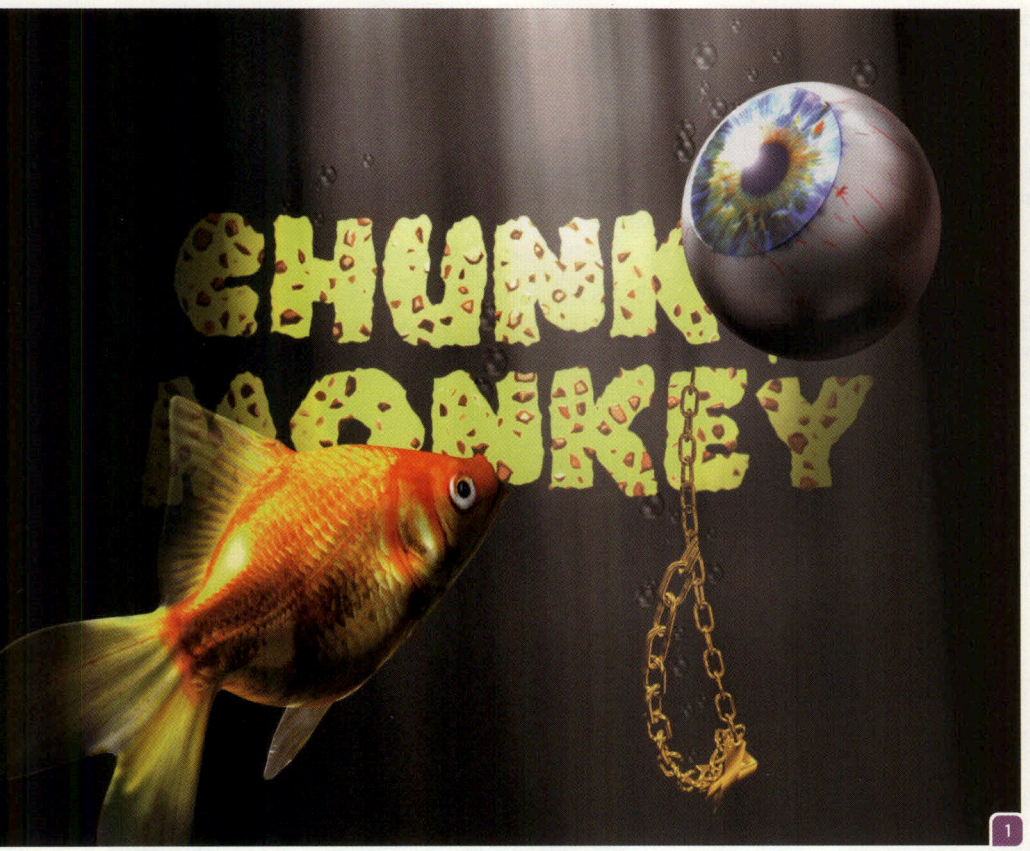
3. Here, Matt Lucas is impersonating Boy George for Rock Profiles on *UK Play*. Digital channels have provided an explosion of ident and title work, though budgets are invariably tighter.

4. Ident work for Discovery done in *Editbox*. P3's *Editbox* supports six real-time layers with a good proportion of them all active for this job.

5. More title work for MTV, with P3 comping high-speed photography in *DS*.

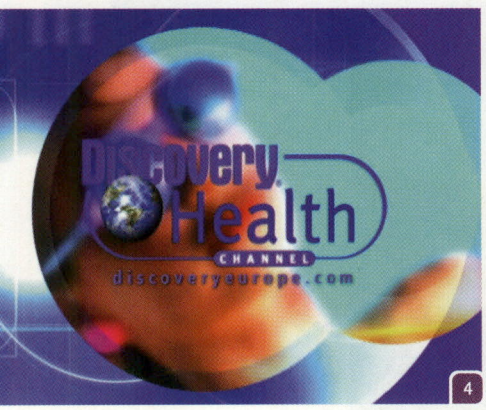
6. C4's Caribbean Summer cricket stings were composed first in *Symphony*, with effects added in Editbox plus several transitions in *DS*.

7. Work done for the S-type launch at the Motorshow in Birmingham. P3 used *Photoshop* extensively for this project.


CHUNK
MONKEY
1

www.Tango.com
2

3


Discovery
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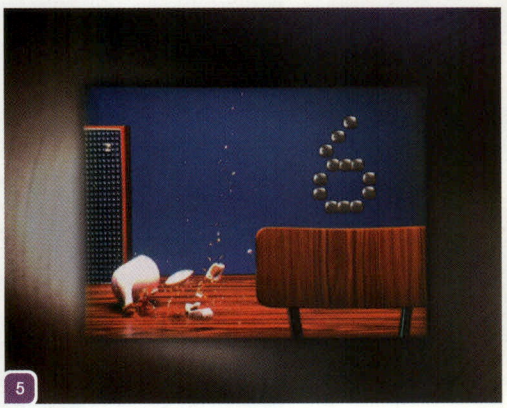
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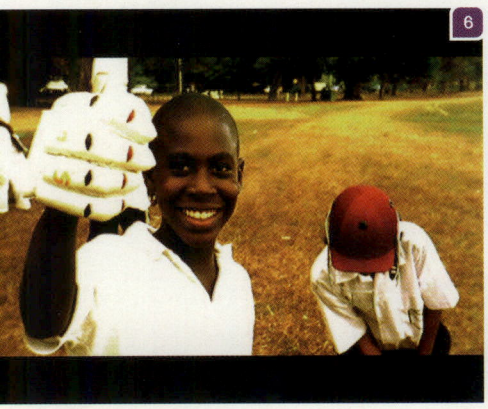

6

JAGUAR S-TYPE
7

and everything's becoming very design-led. It's more about integration and putting everything together into a whole package now of 2D and 3D and making it look real. That's what everyone's striving to achieve. And the way that all the kit links up now, directors are expecting the edit to be available and be able to work on it in the graphics or at compositing, whereas before that it would take place at specific companies."

Future moves

Hutchings is just back from this year's IBC, where it's safe to say that Avid had a much larger stand than eight or so years ago. Luckily, he left his chequebook at home, though the things he says caught his eye included Quantel's new Windows 2000-based iQ platform. While new kit is always on the agenda, expanding the company is not really an option at the moment (though the company does have an informal agreement with Loop on the graphics front – see page 30). Editing is the core process at P3 Post, and so far the company has resisted the temptation to diversify, even though some might say that the software is doing that for them.

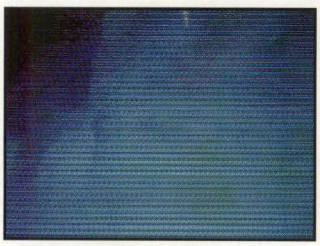
And the future? "In a word: consolidation," says Hutchings. "We've spent the first few years of our life innovating furiously and expanding very quickly. There's no point sticking your head in the sand and saying you're not going to change in the next couple of years though, because that's driven by technology. As soon as you turn your back for a minute and pretend you don't need to keep up with that rate of change, then you're fucked really." ca

You can view a P3 showreel in the Movies section of our CD. Contact P3 Post on [t] 020 7287 3006, [e] edit@p3post.co.uk or via the company's Website at [w] www.p3post.co.uk

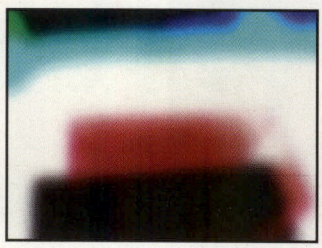
"It's more about integration and putting everything into a whole package... and making it look real" – **Phil Gadd**, P3 Post

How P3 Post created... part 2

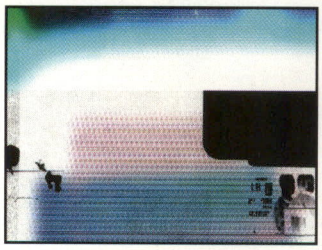
Titles for *The World is Watching*...



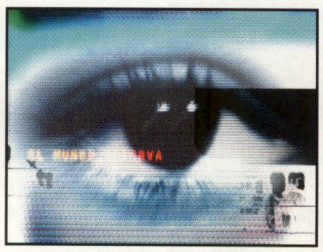
1 Again, a close-up of a TV screen is shot, with Phil Gadd inserting more scan lines and colour correction in DS to make an 'edgier' image.



2 Another texture is comped in. The original is pristine, but undergoes further blurring and colour correction along the way to fit with the overall look.

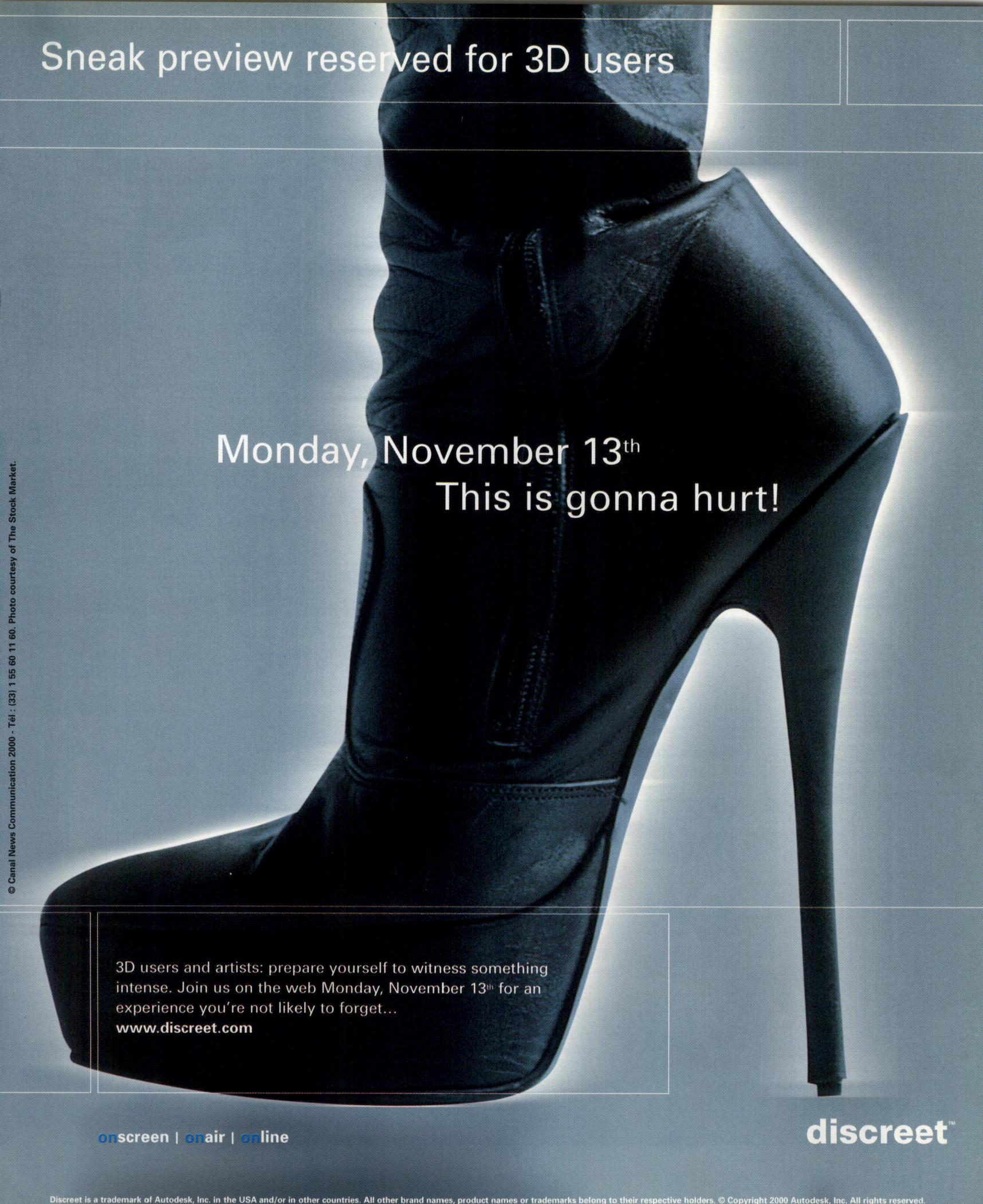


3 Another 'edgy' matte from a still is created – to give the impression of people under surveillance – then comped in and animated using DS.



4 The eye from the original *Big Brother* title sequence is added, with animated text also inserted. The completed image is liable to be on-screen for only three seconds.

1. More title work for MTV's *Ibiza*. Phil Gadd – ex-Illusion designer and P3 Post's *Softimage|DS* Operator – helped capture the atmosphere of a summer-long clubbing extravaganza with compositing work in *DS*. Andy Cole – Creative Director on Channel 4's hugely popular *Big Brother* – took care of design.


Sneak preview reserved for 3D users
Monday, November 13th
This is gonna hurt!
3D users and artists: prepare yourself to witness something intense. Join us on the web Monday, November 13th for an experience you're not likely to forget...
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Iron on reverse
Ne pas faire tremper
Laver les couleurs sombres separement
Repasser sur l'envers
Não deixar de molh
IRRITANT
IRRITANT
R T. BIRD
ARRYS BATH S.S
I want
I want
I want

Photoshop Skills

De-composing in Photoshop

Photoshop's layering options enable you to build images that start to 'decay', as more elements are placed and overlapped...

The graphics industry has completely changed over the last ten years and we are now in a new era of stunning and ground-breaking graphics. A vast amount of these images have a distinct, CG look – crisp straight lines, bright colours and perfect reflections. But sometimes it's more desirable to have a more lo-tech look and feel to your image. Not everyone wants shiny, mechanical monsters with lasers blasting all over the place...

In this walkthrough, we'll create a picture that will be made up from various elements, including illustrations, photos and various objects placed on the scanner. It's a style that's great for stock libraries, book covers and magazines. You can use the elements provided on the CD, but you may want to try using things found around your own home...

Tutorial files

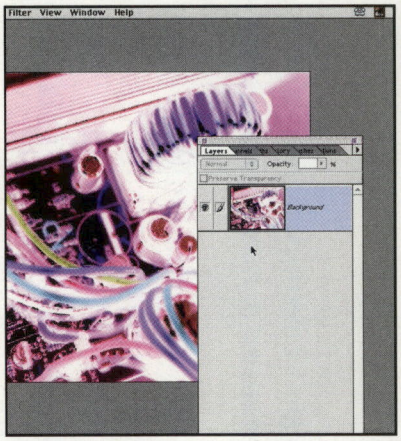
The files to accompany this tutorial are on your CD in Dual\Tutorials\Photoshop (for personal training purposes only). Artwork and expertise by Tim Bird, [e] timbirdgraphics@yahoo.com [w] www.timbirdgraphics.co.uk

Part 1: Beginning the layering process

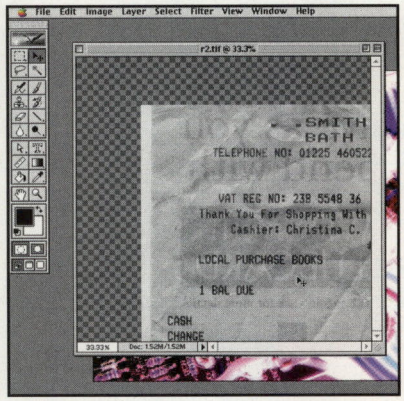
There are quite a few layers in this image, which can create a large file size. Make sure you have enough free hard disk space before you start...

Naming layers

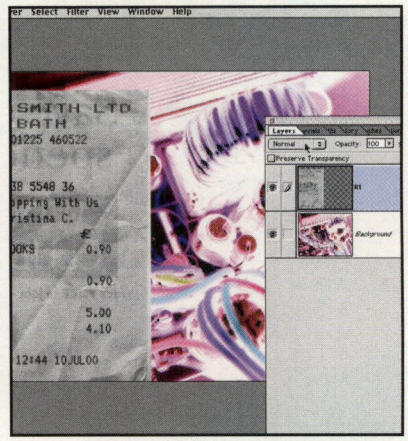
Even if it's a simple file with a few layers, it's good to get into the habit of naming them. If your picture does start to become more complicated than you imagined, you'll be less likely to get lost in your layers if they have relevant names assigned to them, rather than numbers.



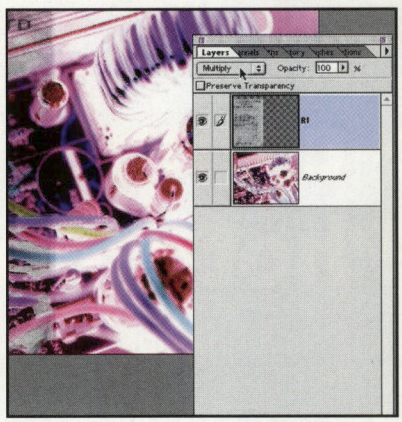
1 Start off with the circuit as your base layer, your file will have many layers so only a small part of this will actually be seen in the final image.



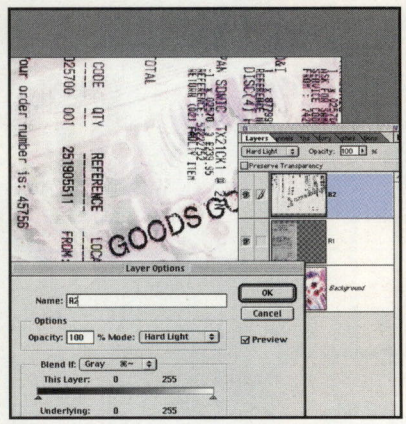
2 Next will be the first receipt – just drag and drop it straight into the main file, (dragging and dropping instead of copying and pasting doesn't eat into your scratch disk space and cause you problems later on).



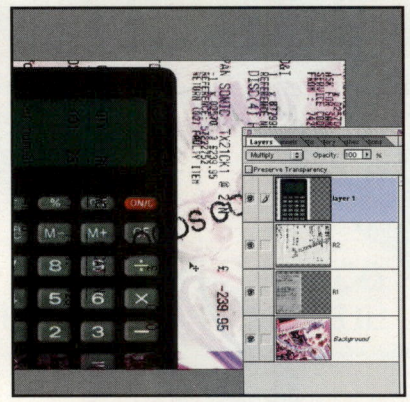
3 Once the receipt is safely in the main file it can then be resized and positioned as shown here – it's a pretty simple process.



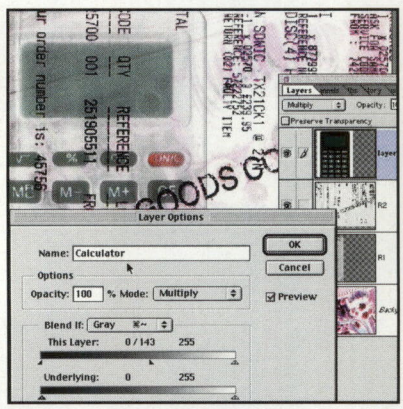
4 This is where the layering process begins. In the Layers palette, change the Layer mode to Multiply. You'll find that this effect removes most of the white from the receipt.



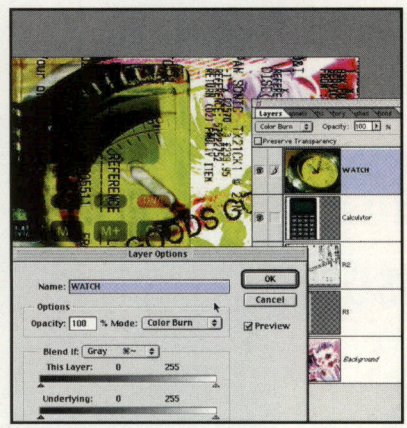
5 Next, place the second receipt into the file and position as shown. To name a layer, double-click on 'layer 1' in the Layers palette, rename the layer as shown and set the mode to Hard Light.



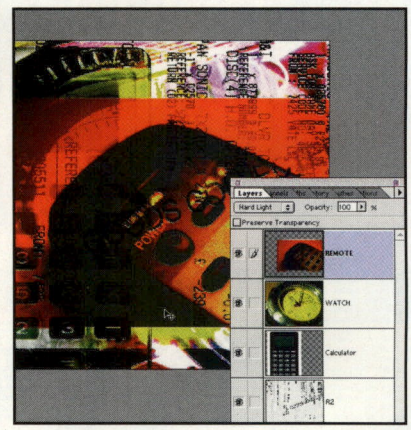
6 Place the calculator into the file and reposition or resize. Set the layer mode to Multiply. The darkness of this object is a bit overpowering; we want to remove some of the black while retaining the detail of the buttons.



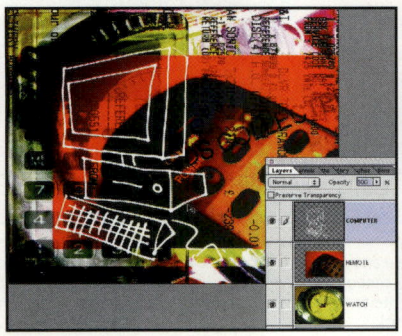
7 Name the layer, then go to the 'Blend if:' section. Your default channel should be grey. Option-slide (Mac) or Control-slide (Win) the right triangle; the darkest tonal values of the image (0–143 out of 255) will blend with the image below.



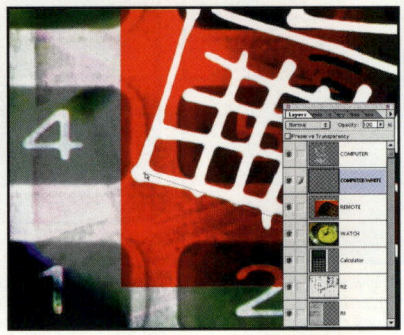
8 Now place the watch into the image and apply the Colour Burn layer mode. The picture is now starting to get the desired effect and is throwing up some strange shapes and textures.



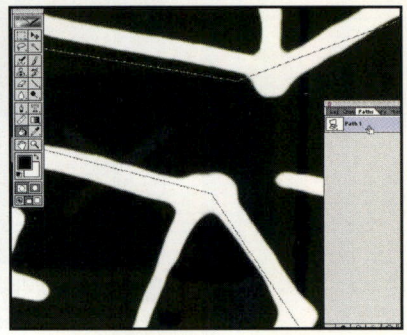
9 Next in this layering process is the remote control. This evens out the picture in terms of filling space. Apply the Hard Light layer mode to continue with this decaying effect.



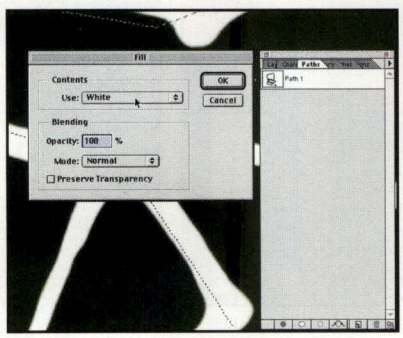
10 Place the computer into the image as shown and don't apply any layer modes to it. To define the shape more we will fill the shape with an opacity similar to tracing paper.



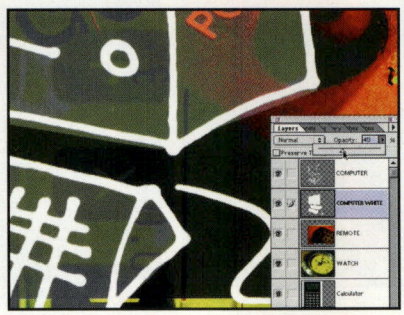
11 Go to Layer>New>New Layer, then choose the Pen tool and click on the corners of the computer until the shape is defined and the points connect at the end.



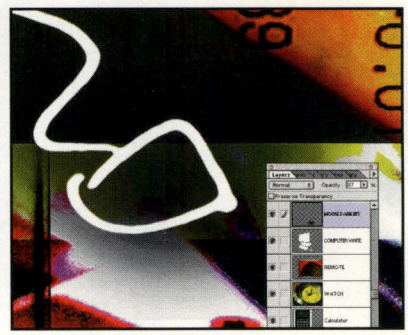
12 Now that you've defined your path, go to the Paths palette and Option- or Ctrl-click (Win) on Path 1 – this will turn your path into an active selection and the marching ants will appear.



13 To fill your selection go to Edit>Fill. When this box appears, select white as your fill colour and an opacity setting of 100 per cent. Leave Preserve Transparency unchecked.



14 Go to Opacity and lower the setting to 60 per cent. It's better to fill with 100 per cent and then lower the setting to 60 per cent in the Layers palette, as this gives you the extra flexibility if you choose to reduce the opacity.



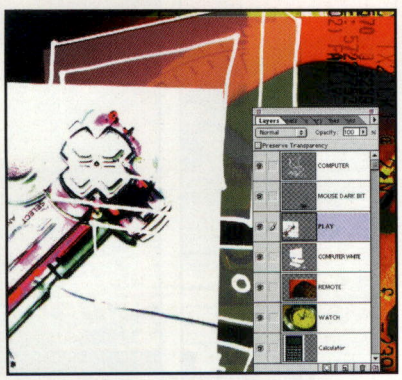
15 Here, the mouse seems to get lost on the lighter background so we're just going to create a new layer and simply airbrush with black until the mouse stands out a bit more.

Part 2: Clipping and trimming

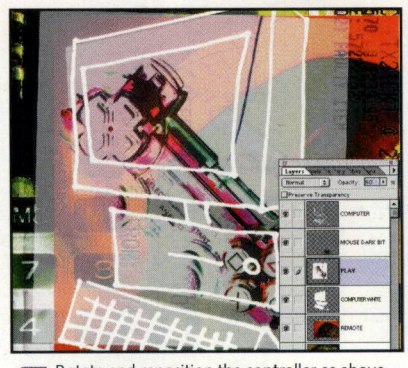
Most objects are fine just sitting on top of each other, but some look better clipped and trimmed inside or behind other images…

Collector's items

This picture was made using just household objects and one or two illustrations. It's amazing what you can get under a scanner, and you don't have to look very far to find interesting material.



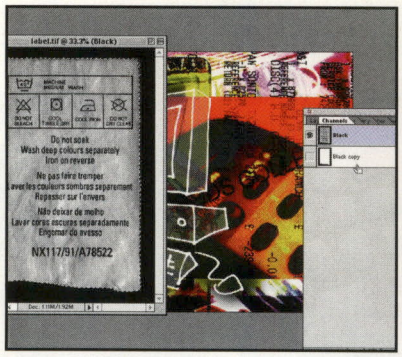
1 Now that we have the computer and its defined shape, we can place the games controller into the picture (place above the Computer White layer).



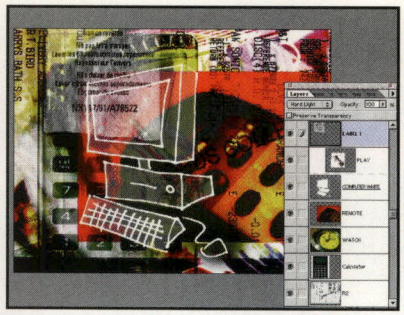
2 Rotate and reposition the controller as above. We want this to sit within the shape of the computer and we could use various techniques to achieve it. One of the quickest and easiest ways is simply to create a clipping layer.

3 Press the Option (Mac) or Control (Win) key and roll the mouse over the horizontal line that divides the Computer White/Play layers, until an icon appears with two overlapping circles. At this point click the mouse to intersect the layers.

Part 2: Clipping and trimming, continued...



4 Now we'll bring in the washing instructions label. To select it, Option-click (Mac) or Ctrl-click (Win) on the Black Copy channel.



5 Drag and drop with the Move tool selected. Position it as shown and apply the Hard Light colour mode at 100 per cent opacity. We'll now remove the part that's interfering with the computer by using a new layer mask.

6 Go to Layer>New>Layer Mask>Reveal All. A black box should appear to the right. Option-click (Mac) or Ctrl-click (Win) on the Computer White layer. Press Command-I (Mac) or Ctrl-I (Win) to make the selected area black. This acts as a mask.

7 Bring the same label into the image using a new layer and then position it as above. Next, you need to apply the Hard Light layer mode and set the opacity level to 57 per cent.

8 Now bring in the 'I want' text, and repeat the layer mask method described in stage 6 to hide all the unwanted sections of your image.

9 Place the Irritant logo on Normal layer mode at 100 per cent opacity, then the Barcode file, and resize and reposition as above. Apply the Multiply layer mode at 100 per cent opacity.

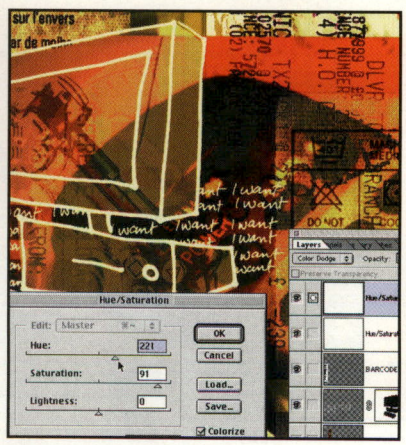
Part 3: Final colour adjustment

One of the main aims is to give this picture an old look, so we'll use a couple of adjustment layers and vary our layer modes and opacities...

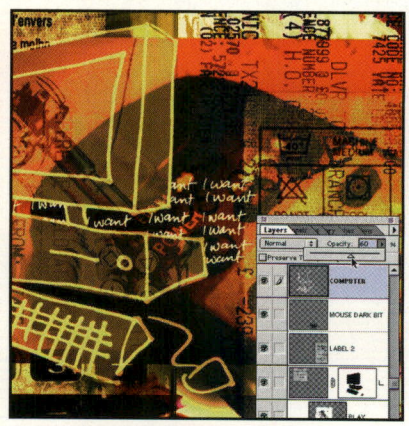
Keep going

You could keep going by flattening this image, doing a Save As and adding even more elements, creating a completely different and more complicated montage.

1 After a bit of experimentation, we used the following technique to provide an aged look. Go to Layer>New>Adjustment Layer>Hue/Saturation, then apply these settings and tone them down by setting opacity to 66 per cent.

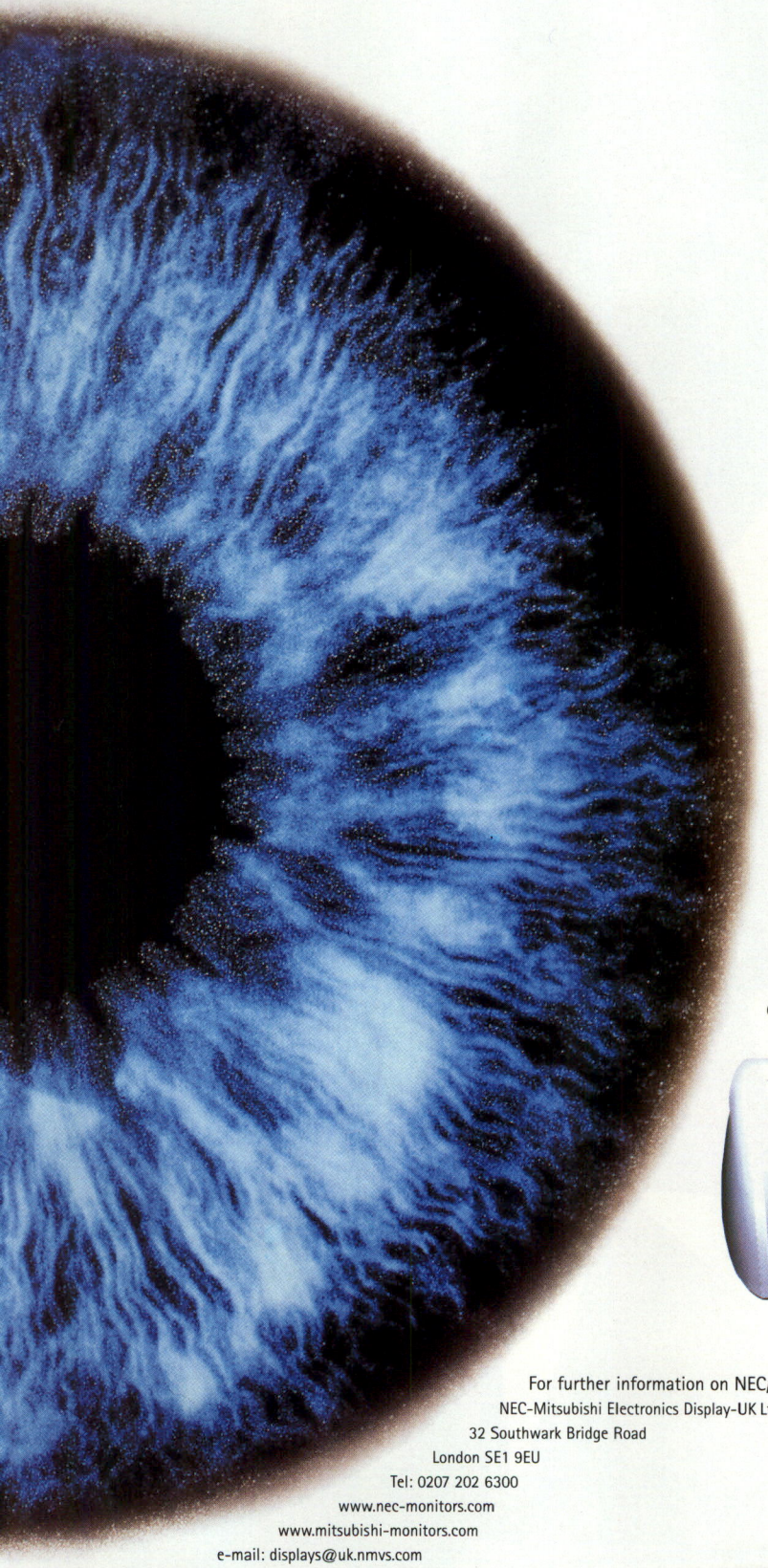


2 We repeated the process with these settings, but applied the Colour Dodge mode at an opacity setting of 59 per cent.



3 We found that reducing the opacity of the computer to 60 per cent blends it in better with its surroundings and emphasises the 'I want' text – which completes your picture. ca

MITSUBISHI



Power and Precision

Quality is visible. Mitsubishi introduces the Pro2045u a powerful new 22 inch display featuring a precise unified 0.24mm AG pitch, a stunning 2048 x 1536 maximum display resolution and the latest generation DIAMONDTRON-NF™ tube. The Pro2045u is the perfect display solution for users of demanding CAD and graphics applications.

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www.nec-monitors.com
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computer arts

Computer Arts Star Awards 2000

We celebrate the best and most innovative creative products of the year. Each and every winner across our 12 categories has excelled in its field and made an impact on the design industry...

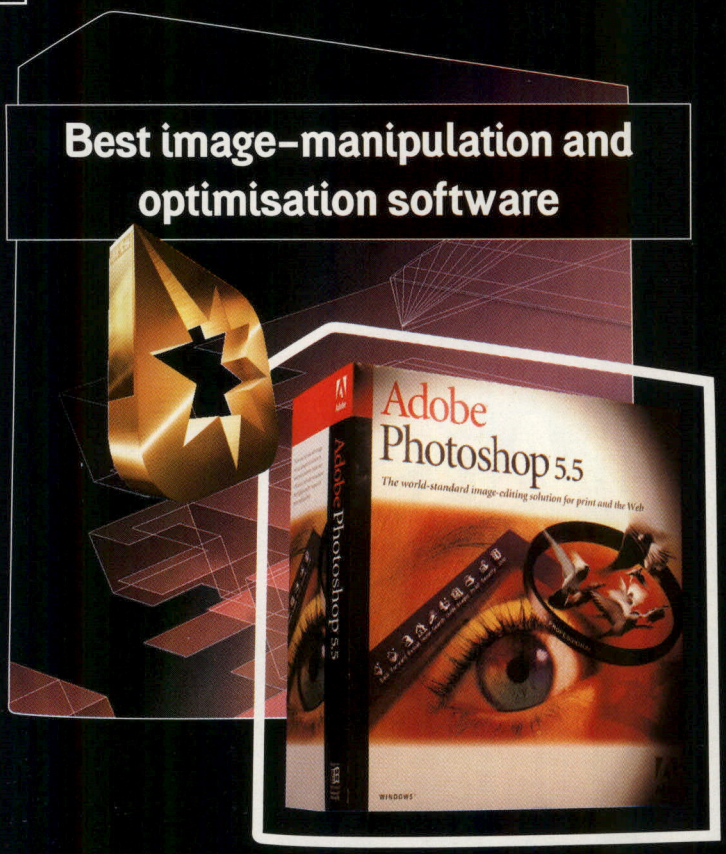
One of the main attractions of our *Computer Arts Live* show, held in London last month, was the *Computer Arts* Star Awards 2000 ceremony. The event has become a focal point for the creative industry, and this year we held it at a gala evening in London's Imagination Gallery. Mucho swish.

The *Computer Arts* Star Awards 2000 look back on the last year's progress, across the entire breadth of new hardware and software released. For 2000 we included 12 categories covering the usual print, multimedia and Web design applications, plus DTP, as well as awards for the best monitor, printer, scanner, storage device and digital camera.

We're often asked how the winners are chosen. This is based on meetings and consultations between our expert reviewers and the *Computer Arts* editorial team. The products lucky enough to showcase in our awards ceremony not only gained respectable review scores within the magazine, but are also usually products that have made an impact on the design industry through innovation, leading the way with improved features, functionality and professional results.

Get ready, as we unveil this year's range of top-quality creative products.

Best image-manipulation and optimisation software



Winner: Adobe Photoshop 5.5

If there's one application that has dominated the world of the graphics professional, then *Photoshop* is it. The package has always offered unrivalled functionality, no more so than with version 5.5.

The brand new Web features within *Photoshop 5.5* (mostly in the form of *ImageReady*) extended the app's functionality tenfold. It now not only tops the bill on the print side of things, but is also an extremely powerful Web authoring tool.

Offering sophisticated image slicing, rollover effects, animation and advanced compression options, the addition of *ImageReady 2* to the *Photoshop* box has transformed it into a cross-media publishing solution. But that's not all. *Photoshop 5.5* sports impressive new features for print, including superior masking tools and a handy Save For Web dialog. The fact that you can easily jump between apps is also a great time-saver.

With v6 hitting the shelves, the reputation of *Photoshop* and *ImageReady* as the ultimate print and Web graphics solution will no doubt continue to thrive, but for now, improved masking tools, a comprehensive Web toolset and the usual clear interface make for an application that's a worthy winner of a *Computer Arts* Star Award.

Runners-up

Macromedia *Fireworks 3*
Corel *Painter 6*

Photoshop 5.5 cost £529, version 6 is £469: [w] www.adobe.co.uk
Fireworks 3 is £179: [t] 020 8358 5857, [w] www.macromedia.com
Painter 6 costs £352: [t] 020 8358 5857, [w] www.corel.com

Best digital video package

Winner: Apple Final Cut Pro 1.2

Powerful, flexible and easy to use, *Final Cut Pro 1.2* put Apple on the map as far as digital video software is concerned. The application combines editing and compositing capabilities with full DV compliance, and comes optimised for the G4 processor's velocity engine.

Not only has *Final Cut Pro* impressed our DV expert reviewers, but it has begun to penetrate professional-level television and video production companies. Installed on a PowerBook it becomes a portable DV editing suite; video correspondents can file footage for television or the Web from just about anywhere in the world, provided they have a DV camcorder. The drag-and-drop method of manipulating clips in the Canvas window, and extensive collection of preset transitions, makes it easy to splice together footage in a hurry. However, the effects crowd is well catered for with unlimited compositing layers and FXBuilder.

We are sure you will agree that *Final Cut Pro 1.2* is a deserved winner in this category. Perhaps the only black mark against it is that it's not available for PC. However we have version 2.0 to look forward to soon, and there's plenty more happening in the DV field.

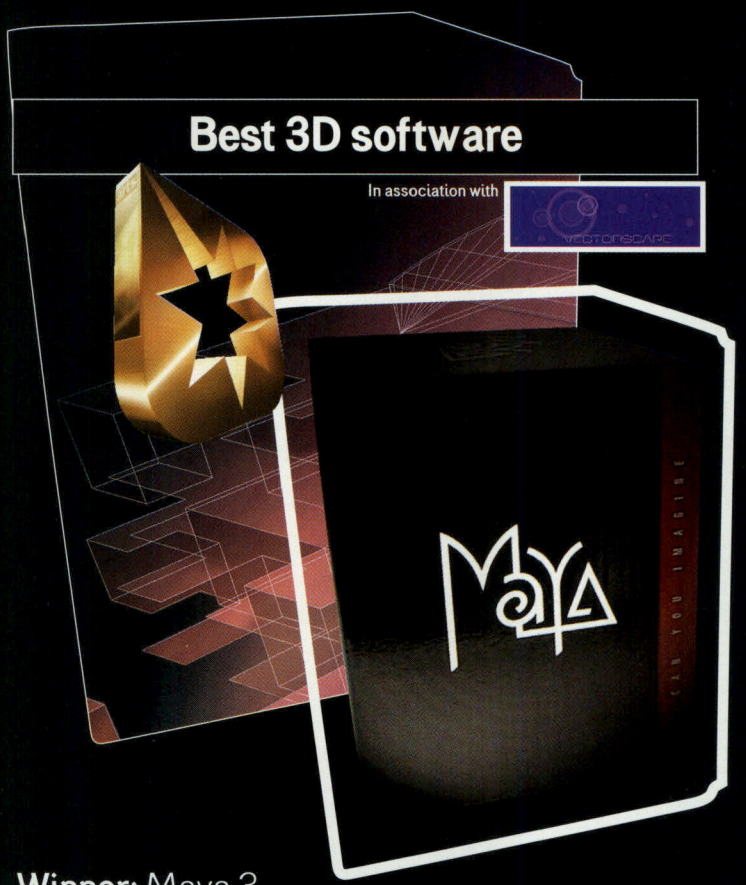
Runners-up

Discreet *combustion*
Adobe *Premiere 5*

Final Cut Pro is £829: [t] 0800 783 4846, [w] www.apple.com/uk
Premier 5 is £500: [t] 020 8606 4000, [w] www.adobe.co.uk
combustion is £2697: [t] 020 7851 8000, [w] www.discreet.com

Best 3D software

In association with VECTORSCAPE



Winner: Maya 3

Maya is not just a 3D application, but a phenomenon. But there is substance behind all the hype and excitement. Since the days of *Power Animator*, Alias|Wavefront has had a name in the animation arena and although the company has moved from version 1 through 2, 2.5 and on to 3 relatively quickly, the latest version edges ahead of a number of outstanding packages in the field.

On top of interface tweaks that make the program a little easier to follow for new users, *Maya* 3 has Area Lighting with radiosity effects, a faster renderer, the Paint Textures feature and Trax, a brand new non-linear animation system. Extending animations, looping, sequencing and editing becomes a simple drag operation. There are animation layers and you can always go in and grab the f-curves if you need to. Subdivision surfaces have been taken beyond mere modelling functionality and can now be textured and rendered directly within Maya.

Looking forward, *Maya* is porting to Mac and Linux in 2001. There's a healthy level of competition in the 3D world at the moment, so what remains to be seen is whether the company can keep its edge and keep *Maya* ahead.

The sponsor

Vectorscape is an Internet-based virtual reality universe. Inside the universe are a number of virtual reality worlds. More at [w] www.vectorscape.com

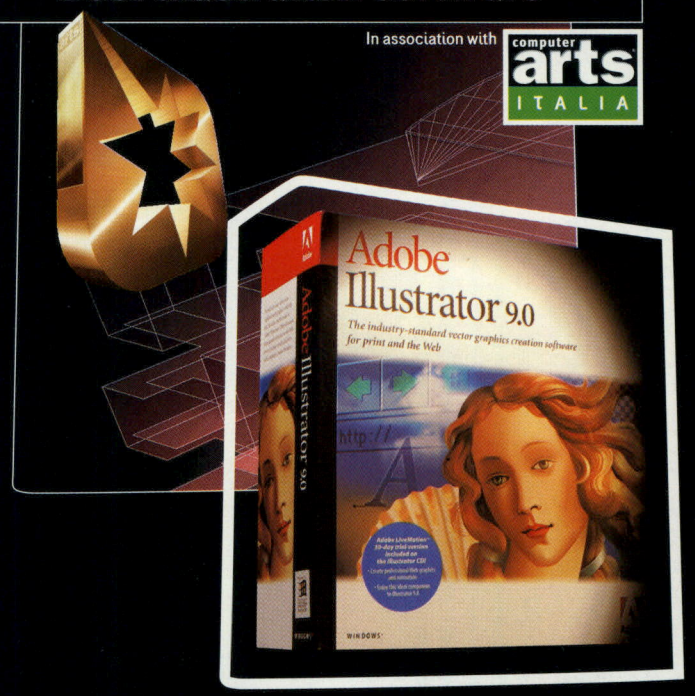
Runners-up

NewTek *LightWave 6*
Maxon *Cinema 4D XL 6*

Maya Unlimited is £15,216: [t] 01494 441 273, [w] www.aw.sgi.com
LightWave 6 retails for £1874: [w] www.newtek.com
Cinema 4D XL 6 is £1395: [t] 01525 718 181, [w] www.maxon.net

Best illustration software

In association with computer arts ITALIA



Winner: Adobe Illustrator 9

Although the main focus of this upgrade is on improving *Illustrator*'s rather out-of-date Web features, Adobe has also included print-orientated functionality that users have been requesting for years, such as the immensely flexible Live Transparency. This not only enables users to alter opacity settings of objects and text, but to create detailed opacity masks. Complementing this, Live Feathering enables you to build up complex soft-edged images.

On the Web side of things, we see a new Styles palette. Users can apply a style (custom or preset) to an object without altering the underlying path — handy for creating Web buttons and the like that maintain consistency throughout a site. Other new features are the Web-safe RGB workflow and *Photoshop*-esque Save For Web options.

Another Web-orientated feature sure to please is the excellent Release to Layers, which can export any number (within reason) of *Illustrator* layers to Flash frames.

Add to this complete integration with *Photoshop* — you can even maintain text transparency editability when shifting between the two apps — and you have a vector illustration tool that is second-to-none.

The sponsor

Computer Arts is published locally in Italy in association with the UK version of the title.

Runners-up

Macromedia *FreeHand 9*
CorelDRAW 9

Illustrator 9 costs £293: [w] www.adobe.co.uk
Fireworks 3 is £179: [t] 020 8358 5857, [w] www.macromedia.com
Painter 6 retails for £352: [w] www.corel.com

Best multimedia/ Web authoring package

Winner: Macromedia Director 8

Macromedia *Director* has long been the industry standard for creating multimedia CD-ROMs, and version 8 is something special. On the outside it looks different, the most significant enhancement being the Property Inspector. Replacing a plethora of dialogs once needed to attain information about movies and sprites, this intuitive dialog now simplifies the whole movie-making process.

Another enhancement is the addition of scalable movies, which certainly takes the pain out of setting up *Shockwave* content to scale according to the size of the viewer's window. *Director*'s native scripting language Lingo is greatly improved, with many productivity and time-saving enhancements.

Impressively, we see a whole new set of preset transitions, and because these are written in Lingo, rather than the usual C, designers are able to edit them, creating new runtime effects to order.

But one of the major additions to *Director 8* is the *Shockwave Multi-user Server*, making it possible to set up a Web-based chatroom for 10,000 users in minutes. Add to this improved integration with *Fireworks*, better vector graphics capabilities and improved Publish settings and you have an essential tool for multimedia production.

Runners-up

Macromedia *Dreamweaver 3*
SoftPress *Freeway 3*

Director 8 and *Dreamweaver 3* can be purchased for £939 and £299: [t] 020 8358 5857, [w] www.macromedia.com
SoftPress *FreeWay* costs £199: [w] www.softpress.com

Best Web content creation tool

In association with INTERNOLIX

Winner: Macromedia Flash 5

When rating and reviewing Web content creation tools, there can only be one winner. And *Flash 5* has lived up to all expectations.

Topping the list of improvements is the expansion of the ActionScript syntax. Now more closely resembling JavaScript, the number of commands has grown considerably. Alongside this we saw a significant overhaul of the scripting tools. The Actions panel is now a context-sensitive floating palette as opposed to a dialog, and it's finally possible to add actions to a movie clip.

Improvements to the Symbol library underlines *Flash 5*'s status as a more collaborative tool, with developers now able to use shared symbol libraries within projects. There's also a new hierarchical Movie Explorer, making it a simple task to keep track of components within a complex movie.

We also see traditional Bézier and Pen drawing tools, although you can still edit vectors in the traditional way. Integration with *FreeHand* gives the vector capabilities a boost, as the import dialog now supports the mapping of multi-page *FreeHand* documents to *Flash* scenes or keyframes.

All this undoubtedly makes *Flash 5* the ultimate Web content-creation tool.

The sponsor

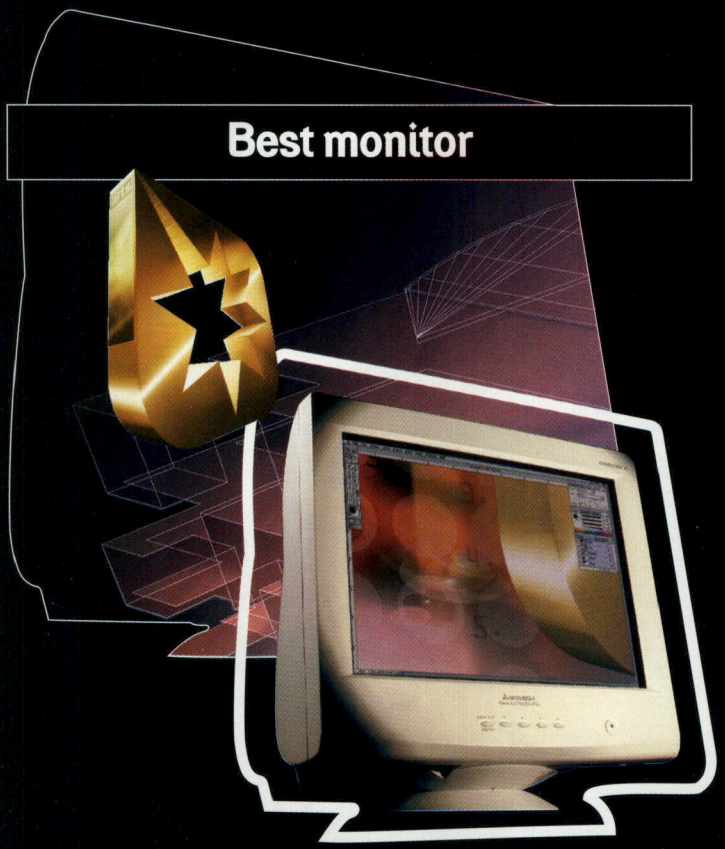
Internolix is an e-commerce software development company, helping businesses build database-oriented online shop systems. More info can be found at [w] www.internolix.com

Runners-up

Adobe Photoshop 5.5
Macromedia Fireworks 3

Flash 5 can be picked up from CU for £259 on [t] 020 8358 5857. Check out [w] www.adobe.com for the latest *Photoshop* updates. Info on *Fireworks 3* can be found at [w] www.macromedia.com

Best monitor



Winner: Mitsubishi DiamondPro 2040

The DiamondPro 2040 had already won the Star Award for Best Monitor hands down with its truly impressive 22-inch flat screen, as far as we were concerned, and that was even before we got as far as the specs. The DiamondPro gets its name from the Diamondtron Aperture Grille Tube, which turns in an impressive maximum resolution of 2040x1536, and comes equipped with a USB hub.

But that's not all – it comes out on top of all the competition in almost every other respect: its formidable resolution turned our heads to begin with, and then there's the extremely reasonable price, plus there's that USB interface and the fantastic image quality. The anti-glare credentials are the best we've seen yet, and the clarity of the display is superb. Text and colour are incredibly crisp – and with 20 inches of viewable screen, there's plenty of room to work with.

Okay, so £800 doesn't exactly make it an impulse buy, but Mitsubishi's monitor is extremely competitively priced if you take into consideration that it is still £100 cheaper than its nearest rival. And it's worth remembering that quality monitors don't come cheap, and the DiamondPro certainly falls into that category.

Runners-up

Eizo FlexScan F980
Sony Multiscan CTB-G500

The DiamondPro is £789: [w] www.mitsubishi-monitors.co.uk
The Eizo FlexScan F980 is £1503. See [w] www.eizo.co.uk
Sony's Multiscan CTB-G500 is £911: [w] www.sony.co.uk

Best printer

Winner: Epson Stylus Photo 870

The Stylus Photo 870 is one of the most competent all-round inkjet printers we've yet to come across, and as such is well deserving of a Star Award in 2000.

The photo output of this machine is quite superb, although it's worth noting that one downside is that Epson no longer sees fit to have a Mac serial port on its newest arrival. However, despite this niggle, what really stands out is the incredibly fine dithering pattern – it's so fine, in fact, that our reviewer in issue 44 couldn't even find one. Any granularity that you might see in your printed image is more likely to come from the original negative rather than be a product of the Stylus Photo itself.

Epson assures us that the quality has improved since its previous model, that the motor is much quieter, and that its new paper/ink combination should remain light-fast for an astounding ten years. Which is great news, especially considering that most inkjet printers in the past have suffered fading problems. In fact, Epson is so assured of its product's success that it is still selling the older versions, although we'd definitely recommend this latest incarnation – especially if you want that funky new styling.

Runners-up

Hewlett-Packard DeskJet 950C
Oki DP5000

The Stylus Photo 870 is £239: [w] www.epson.co.uk
HP's DeskJet 950C retails for £234: [w] www.hp.com
Oki's DP5000 costs £422. Head to [w] www.oki.co.uk

Best digital/DV camera

Winner: Sony DCR-PC100E

When it comes to DV camcorders, bigger doesn't necessarily mean better. The DCR-PC100E is an extremely handy size, yet delivers high-quality results. Digital video is becoming increasingly associated with candid, real-life documentaries thanks to compact cameras like this one, which, due to their size, are far less intrusive than traditional TV cameras. The PC100E is perfect if you're filming video for multimedia or the Web, and though it's a single-megapixel CCD model, it still gives more expensive broadcast-orientated video cameras a run for their pixels. The lens is a Carl Zeiss number with a fast zoom and the battery keeps itself juiced much longer than some other cameras out there.

The controls are as clear as the pictures this camera can produce. You can shoot using the viewfinder or the flip-out LCD panel on the side. It even comes with an infra-red emitter enabling you to film in darkness. The camera plugs into computers via Sony's version of FireWire: I.Link. It can also use memory cards for storing still images.

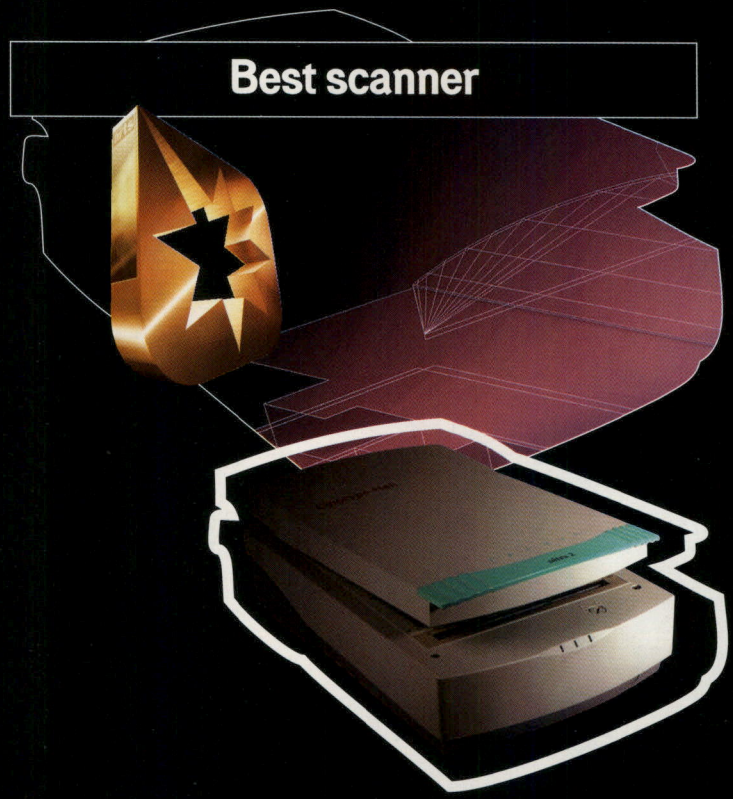
The DCR-PC100E isn't the only high-quality digital camcorder available, but it's the one that has impressed us most over the last 12 months.

Runners-up

Nikon D1
Canon XL1

The PC100E costs £1500: [t] 0990 111 999, [w] www.sony.co.uk
The Nikon D1 is £3500: [t] 0800 230 220, [w] www.nikon.co.uk
The Canon XL1 is £2700: [t] 0800 616 417 or [w] www.canon.co.uk

Best scanner



Winner: Linotype Saphir Ultra 2

You might initially be put off investing in the Saphir because of its high price point, and we agree that at £1409 the Ultra 2 is certainly expensive for an A4 scanner, but it still manages to beat off the stiff competition – and this is due, mainly, to its optical resolution. Its 10,000-line CCD brings in 42-bit images at an incredible 1200x400dpi before any interpolation – stunning.

The upshot of this is that the raw scans it produces are easily the best of the bunch. And the quality of these scans is also reflected in the quality of the scanner itself. There's a transparency adaptor built into the lid, which itself is counter-balanced to stay open at any angle. And on top of that, you also get New Colour 4000 and Colour Publishing Solutions bundled with it – which means that although you're paying top whack, you're getting the best scans to match. But then, the Saphir isn't just another scanner – the kind of reflective scan results you can expect from this product are first-rate, not least for their ability to capture detail in textured surfaces. And what with the Saphir being a cross-platform model, supporting 32-bit Windows as well as Mac, we reckon it's worth every penny.

Runners-up

Polaroid Sprintscan 4000
Scitex Eversmart Jazz+

The Saphir Ultra 2 is £1409: [w] www.heidelberg-cps.com
The Sprintscan 4000 costs £1762: [w] www.polaroid.com
Scitex's Eversmart Jazz+ is £12,332: [w] www.scitex.com

2000AD. Still no flying cars, domestic robots, or holidays on Mars. But at least the EPSON Stylus Pro 9500 has arrived.

Stop press! EPSON's revolutionary new large format printers feature a spec sheet that would've read like science fiction a few years ago.

The **EPSON** Stylus Pro 9500 can print from A3 up to 44"(B0+), on media up to 1.5mm thick, with unrivalled 1440 dpi image quality, using **EPSON**'s unique ColorFast pigment based inks. These inks dry instantly, offer a wider colour gamut than traditional pigmented inks and more than 200 years of light-fastness*.

After all this, the high speed automatic paper cutters and 6 colour printing features seem, let's face it, a bit 20th Century. The new **EPSON** Stylus Pro 9500. Somebody call Tomorrow's World.

For more details on the complete large format range call **0800 220 546**, or visit our website at **www.epson.co.uk**

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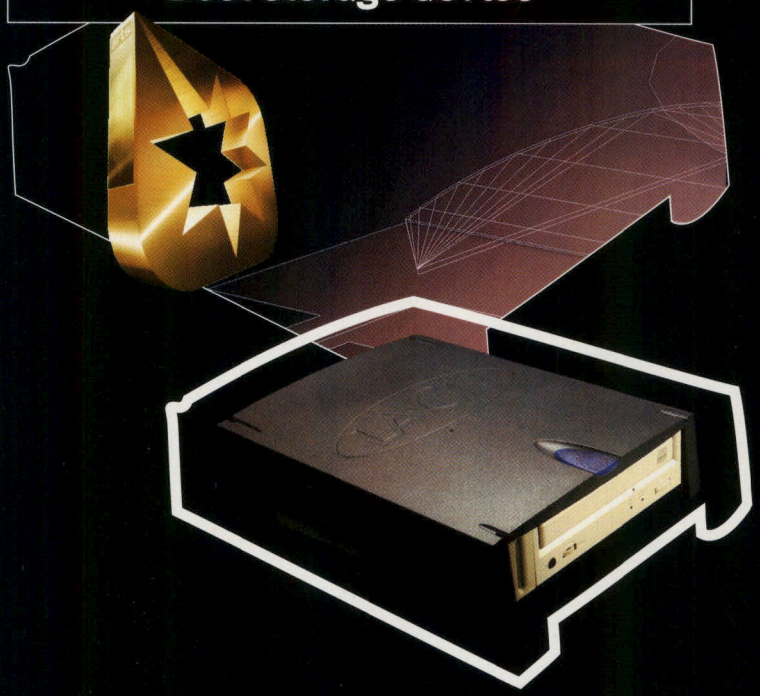
*Lightfastness Test Criteria (indoor display conditions): Flourescent light source; 70k lux intensity; 24°C; 60% Humidity; 2mm Soda Lime glass mount; Fade Criteria: Pure YMC 30% loss at OD=1; Display life calculation: Total Intensity/(500 lux x 10 hours x 365 = 1 year).

Best storage device



Winner: LaCie 8x4x24x FireWire CD-RW

LaCie's CD-RW stood out from the crowd for many reasons, not least of which was the inclusion of a FireWire port (rather than depending on the more usual SCSI), which enables you to share equipment across two or more devices and is proving to be the most versatile way of connecting peripherals. Not only this, but FireWire's main benefit is its ease-of-use. In most cases you can simply connect a 1394 device to the port, which your computer then detects automatically and installs the appropriate drivers. Plus, it has hot swappability — this means that you can connect and disconnect devices while your computer is turned on without the danger of damaging anything.

The LaCie CD-RW provides 8x speed writing to CD-R media, so you can burn a full 74-minute disc in about nine minutes. This isn't bad at all, but if you want it faster, you'll have to move over to SCSI, which is a little more complicated to set up but less quirky. The drive also provides the user with CD-RW performance at 4x speed, and can read commercial CDs at 24x speed. Although PC owners should really look at SCSI for speed or USB for convenience, for Mac users LaCie's FireWire CD-RW is undoubtedly a winner.

Runners-up

Iomega Zip 100
Iomega Jaz 2GB

The FireWire CD-RW is £351: **[w]** www.lacie.com
Iomega's Zip 100 is £119 while the Jaz 2GB costs £299:
[t] 0800 973 194 **[w]** www.iomega-europe.com

Best DTP software

Winner: QuarkXPress 4.1

Web design may be taking the hearts of millions of young creatives around the world, but the printed page is far from dead, and for many graphic designers good desktop publishing software remains a key to their existence.

The last year has seen the release of Adobe's *InDesign*, a completely reworked DTP application which some expected might sweep aside the traditional top dog, *QuarkXPress*. However, things didn't quite turn out like that, and although Quark chose to consolidate and merely update version 4 of *XPress* with 4.1, it has remained a firm favourite in the marketplace, as well as with the graphic design experts working for *Computer Arts*.

The app is logical, powerful and versatile, and now adds PDF import and export, as well as HTML text export for a basic link between print and Web-orientated publishing. Preferences and XTensions enable you to customise the application to your way of working, and the new QuarkLink feature may seem a gimmick, but it does give diehard users a direct Quark newsfeed within the application (if they're online). *XPress* remains king, but we can't wait for version 5, as well as the requite reposte from Adobe's side of the fence. CA

Runners-up

Adobe *InDesign 1.5*
Macromedia *FreeHand 9*

XPress 4.1 is £1287: **[t]** 01483 445 566, **[w]** www.quark.co.uk
InDesign comes in at £522: **[w]** www.adobe.co.uk
FreeHand 9 is £328: **[w]** www.macromedia.com/uk

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1. The dramatic Thames Link 2000 bridge, as proposed by the architects Alsop & Störmer and visualised by Virtual Artworks. The real thing won't look quite as stunning or futuristic, which is a shame.

2. On the left, a building from the Paddington Basin redevelopment, as seen from Praed Street. To the right, a view of a residential block on a canal in the basin area. Virtual Artworks produced a rendered video to market the project to Far Eastern investors.

Virtual Artworks

"Our ambition is to make photorealistic pictures and abstract creative interpretations of projects better than anyone else," says Visual Artworks' digital image architect Steve Bedford...

Compared to the games or special effects, architectural rendering seems a rather less glamorous way of exercising your 3D talents. However, as the London-based visualisation company Virtual Artworks is discovering, the field not only presents it with the opportunity to work with leading architects like Alsop & Störmer, Rodney Fitch and MacCormac Jamieson Prichard, but is already leading to all sorts of exciting new avenues of development.

After just five years in business, the company of 12 has already been involved with some of the most significant modern architectural sites in the UK. These include visualisations of the Solar Tower near London Bridge, buildings in the Paddington Basin redevelopment scheme, the Thames Link 2000 bridge at Blackfriars, the @Bristol centre and Belfast's Odyssey project.

Making landmarks

The Solar Tower rates as one of the most important projects so far for Managing Director Steve Bedford. "It's a large London landmark and we're able to show how it will impinge on the London skyline from all manner of angles, be it from the Monument or from a helicopter or from a long distance away. We can show exactly what visual impact is going to be, for the designers of the building and the planning authorities, and also can reveal it to the public."

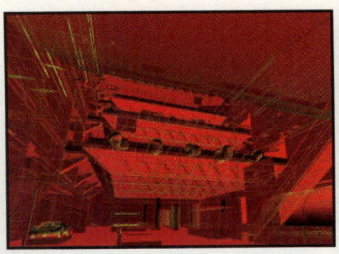
Virtual Artworks begins by importing sections of architects' plans into *3D Studio Max*. Although CAD files could be used, the company finds them problematic and prefers to work from simple 2D plans. Buildings are modelled according to these, with the artists going for either a photorealistic look, or a more abstract, dream-like effect, depending on the requirements of the client. The creation is then rendered on their bank of RenderDrives.

Still images are just the beginning these days. Fly-through animations are routinely created, and people and vehicles can easily be composited into the scenes to imbue them with a feeling of life and reality. Virtual Artworks is now using motion-tracking software, more commonly used in entertainment projects, to assist with the video compositing of 3D objects into filmed environments. It's something that came into play recently when Virtual Artworks worked on a project for the developer of West End Quay, a residential development in Paddington.

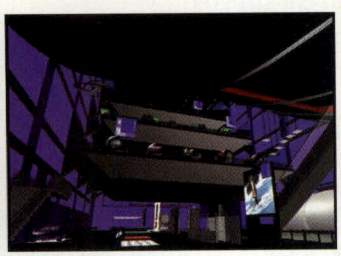
"We made a number of breakthroughs in that project," says Steve. "We used camera-tracking software so we could insert a computer representation of the building into live video footage. We had a mini helicopter down there. We had two guys — one guy piloting it by remote control and another guy

Build high for happiness...

Virtual Artworks brings its bluescreen studio into play, to create impressive presentations that developers can use to more effectively hype their architectural plans and sell their ideas...

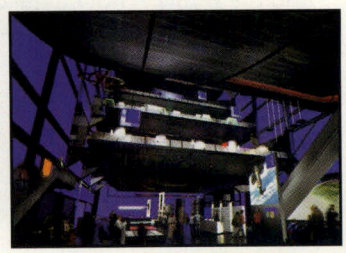


1 First, a *3D Studio Max* model is constructed, and camera positions, lenses and massing is decided upon and confirmed with the client. An initial render is done to help with positioning of lights.



2 At this stage, materials and textures are added to give the general idea of the project's space and lighting.

3 In the bluescreen studio, people stand in front of the blue background. They are then keyed out, ready to be used as appropriately scaled figures.



4 For the final image, RenderDrive is used to create realistic reflections and shadows. The people are then put into the image, and final touches are added with *Photoshop* (lighting effects and so on).

controlling the camera via remote control. We also populated the building with live videoed people, moving around and interacting in the space."

Online resources

In addition to providing high-res images and video animations, Virtual Artworks recently launched a new venture called Virtual Reflex, through which it's adding online elements to services offered to architects and planners. The company has set up a new 3D Website using *Flash* at **[w]** www.virtual-artworks.com In future, architectural projects will be touted to city planners and the public on the Web using similar sites, where visitors can view low-res images, play streaming videos and download higher resolution pictures.

"We'd like to go a bit more immersive through the environments," continues Steve. "There are a number of competing technologies which we're researching. A lot of them are just doing objects for e-retailing. We see *Flash* as a stepping stone to the future and use it to offer some level of 3D interaction."

Set pieces

Another extension of the Virtual Artworks business is into the world of virtual sets for broadcast and streaming media. Having specialised in creating 3D settings, the company was looking for other ways to exploit the technology. So a bluescreen studio has been installed on the ground floor of the company's Farringdon Road building, along with two cameras and a Trinity 2.0 real-time video processing system.

Now designers can create and render virtual environments upstairs using *3D Studio Max* and the RenderDrives, then pipe the results downstairs, where TV presenters and guests are composited into the environment. The resulting footage can then be committed to tape, or even piped out for television or streaming online broadcasts. The system currently supports Windows Media, but the company is looking into *QuickTime* and *Real Media* as well.

The new venture is called yootv, and is already offering its services to film companies. Eventually, the studio will be used for streaming interviews with architects, who will be able to present their projects to an audience live on the Net, even appearing to walk about their creations as they do so, pointing out interesting features, and so on.

However, at the core of the business remains the 3D and architectural expertise Virtual Artworks has built up. "It's important to concentrate on what you're good at, so we basically keep our development plans to our centres of excellence rather than being a jack of all trades," concludes Steve Bedford. ca

You'll find a Visual Artworks showreel on this month's cover CD.
[t] 020 7404 5656, **[w]** www.virtualartworks.com

RenderDrive power

Virtual Artworks has that little bit extra when it comes to rendering – thanks to its bank of four RenderDrive units. Altogether, the three RD2000s and one RD3000 offer 96 individual raytracing render processors. The first advantage the system gives is in terms of speed – via a *Max* plug-in, artists can render and view their visualisations very quickly, make adjustments and re-render.

The units also offer better image quality. Steve Bedford explains: "They give realistic soft shadows, and realistic reflections. The important thing is that we get reflections that fade off into the distance. A typical architectural renderer might have razor sharp shadows and reflections, but with this technology you don't get that. A reflection or shadow will be sharp closer to the object and increases its softness."

The impressively-specced RD2000 costs £9500 and is available from Advanced Rendering Technology on **[t]** 01223 563 854. Head to **[w]** www.art-render.com for further details.

1. Produced for a competition to design a new office for the Lord Mayor of London, Alsop & Störmer and Visual Artworks came up with this glass structure on stilts. It would have added a little modern flair to the building but Norman Foster's firm won in the end. A video showing traffic driving underneath the structure and pedestrians milling around was also created.

2. A block of Belgravia town houses was composited perfectly into its real life location.

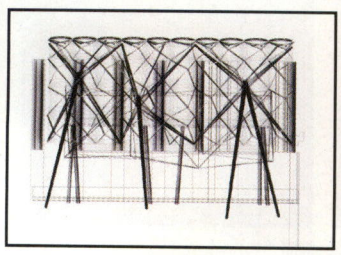
3. The Solar Tower as seen from the Monument at dusk. Virtual Artworks considers the visualisation done for this glass structure to be one of its most important projects to date. The company is in the enviable position of being able to see the future skyline of London before it's been built.

4. The Centre for Life is a communal arts centre that has been built in Sheffield. This is a more creative rendering of the structure, created for Terry Farrel & Partners.

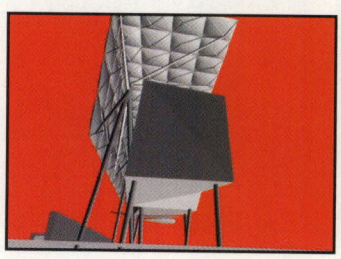
5. One of a series of images of the @Bristol centre, which recently opened. Once again, compositing motion-blurred people into the scene helps realise a more lifelike setting.

How Visual Artworks creates a basic visualisation

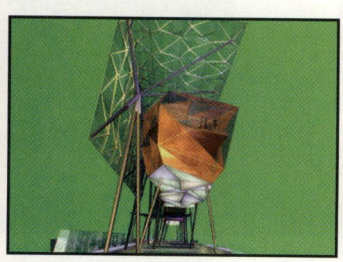
At the core of Visual Artworks' business is the ability to accurately show builders, planners – and the public – how a building will look in situ once it's been constructed...



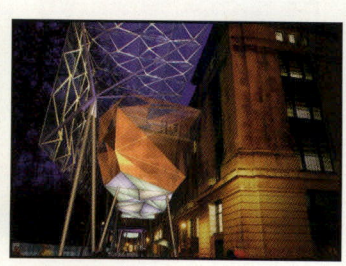
1 The process begins with a client's drawing, in this case showing the complex structure of the building.



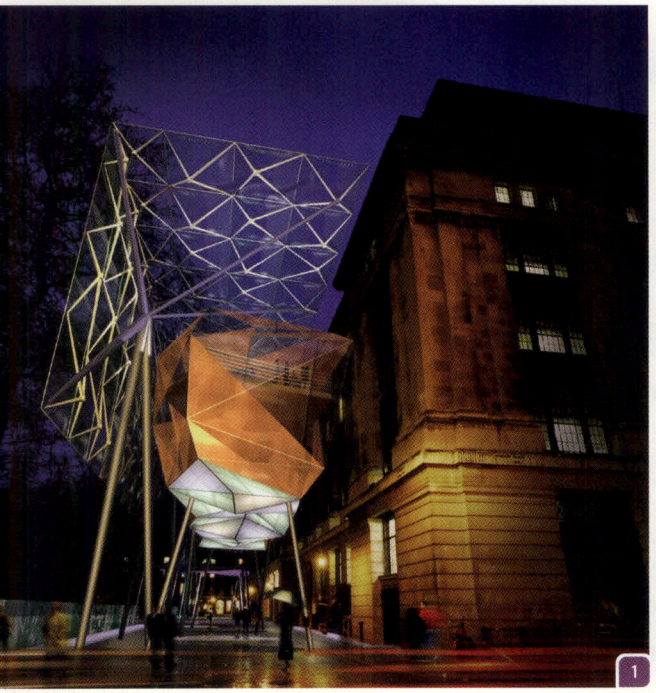
2 From here, the Visual Artworks team creates an initial render to check the geometry and massing.



3 During this process, minor design changes take place. The model is then rendered using correct materials.



4 The final computer image is then composited in *Photoshop*, using a photograph of the actual site. Fine details such as lighting effects are then added.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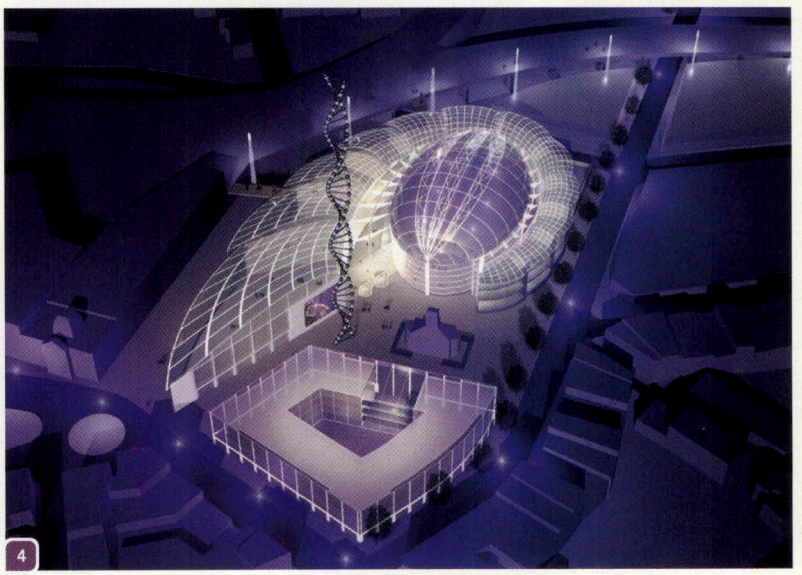
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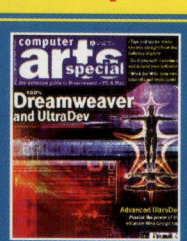

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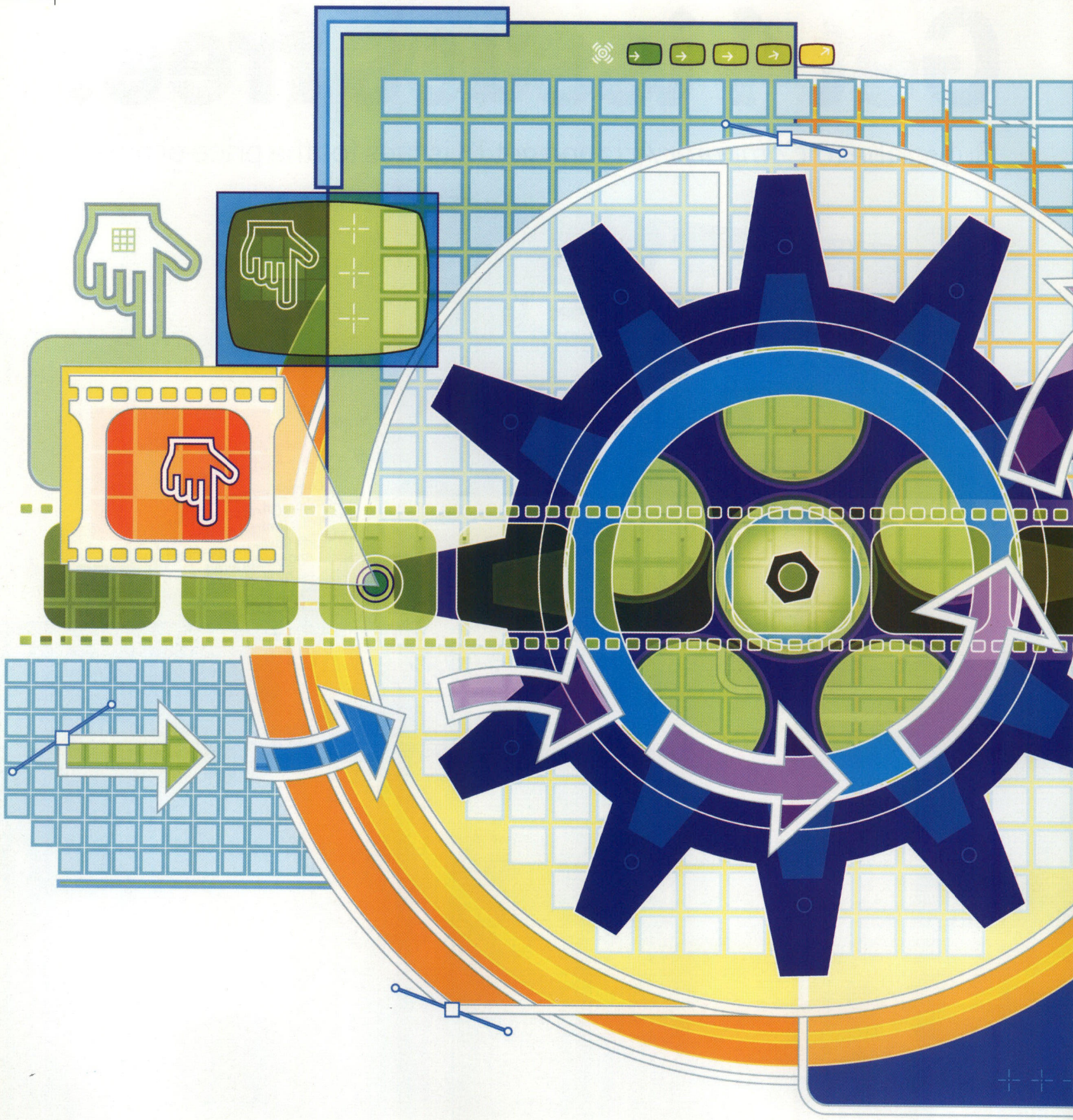

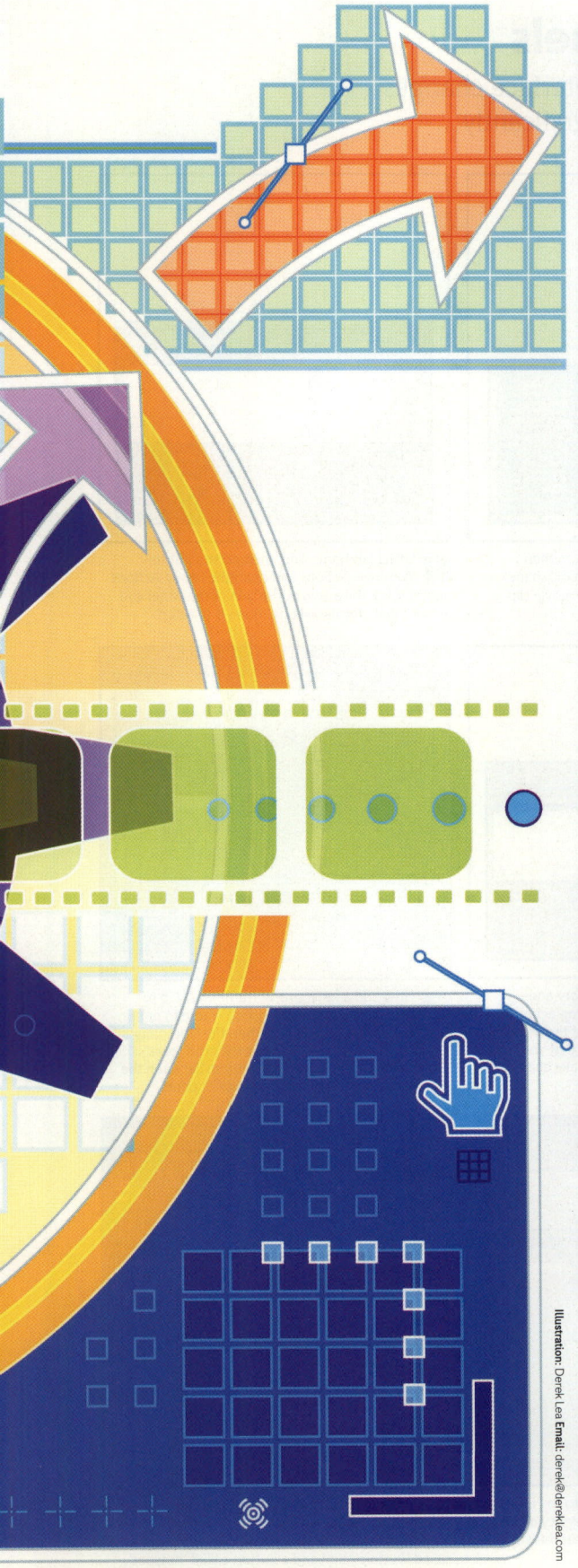

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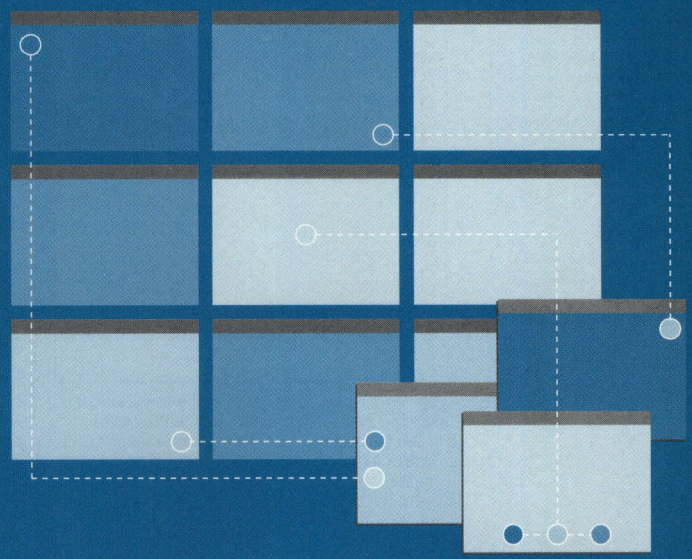


Mastering Flash 5

With features to please programmers and design-minded Web builders alike, *Flash 5* packs a lot of power into a major upgrade. In the first of our two-part series, we show you some of the highlights...

With Shockwave Flash now an open source format, it's no wonder that Macromedia felt the need to make *Flash 5* a major upgrade. Despite valiant efforts all round, however, there really is no credible competition now that ActionScripting is so powerful. Minor changes galore – like the ability to load MP3 compressed files direct – are swamped by the Movie Explorer's object-orientated approach, dialog-free floating panels and a new set of drawing tools.

But rather than reading about it, why not dive in and play with all the new features that *Flash 5* has to offer? In this tutorial, we concentrate on new functions and how you'd use them to build the most simple of projects: a navigation bar.

You'll discover that the workflow has changed a lot from *Flash 4*. Some tried-and-trusted techniques still function in *Flash 5*, but the way they're implemented is different. We're confident that *Flash* newcomers and acolytes will warm to these changes. We're already beginning to wonder how we coped before...

Software demo

You'll find a demo of *Flash 5* on this month's cover CD. Expertise supplied by Karl Hodge. If you missed any of our previous tutorials, just head to **[w]** www.computerarts.co.uk/tutorials

Part 1: Building buttons and using panels

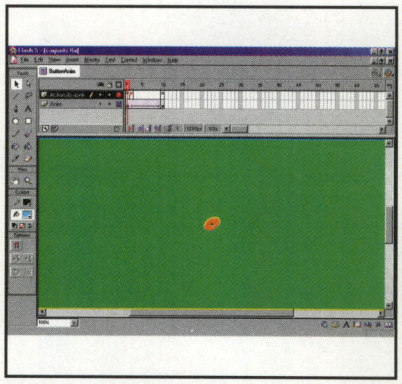
Creating buttons in *Flash 5* isn't much different to before, but the interface changes and replacement of dialog boxes with panels alters the workflow significantly…

Hotspots

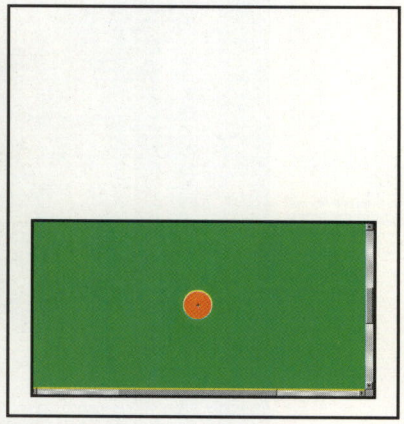
The 'hotspot button' building technique seen here is simply a workaround inspired by the way other authoring programs handle rollovers, and enables you to trigger a more complex form of animated button.

Tweening

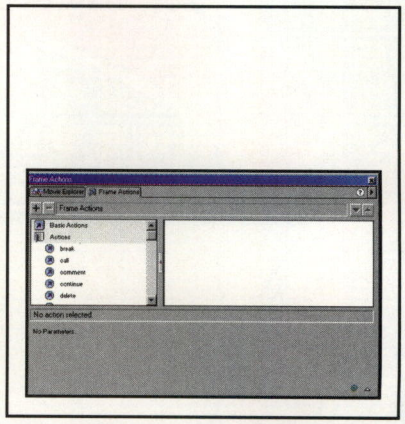
The separation of the tweening dialog into the new Frame panel makes the Create Motion Tween command – available since *Flash 4* – virtually redundant. The control system has come on leaps and bounds since *Flash 3*.



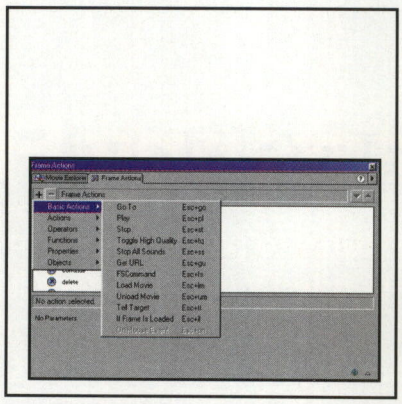
1 Start a new movie, go to Insert>New Symbol and create a movie clip called 'ButtonAnim'. In Symbol editing mode, draw a simple shape (a circle or a square, for example), then convert it to a graphic symbol by selecting the artwork and going to Insert>Convert to Symbol.



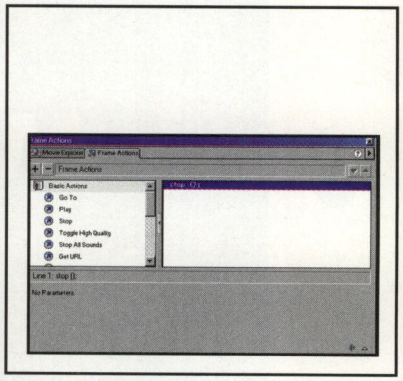
2 Make a ten-frame animation by motion tweening and changing the graphic shape over time. Add a second layer to the movie clip and call it 'Actions&Labels'.



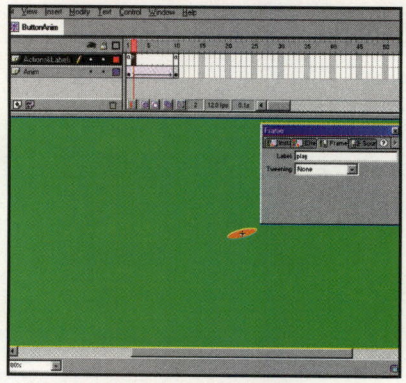
3 Select keyframe one, then go straight to Window>Actions and open the Frame Actions editor. Click the arrow at the side of the panel and ensure that Normal editing mode is selected.



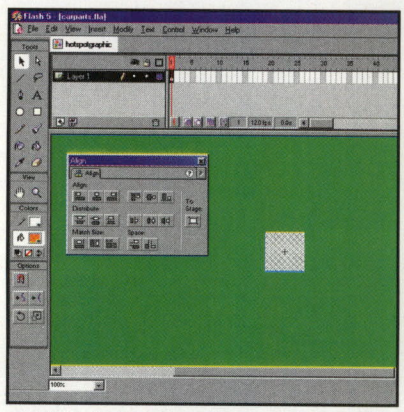
4 The new Actions editor offers two different ways of adding actions. You can either click on the Add Actions icon as before, and select an action from a category in the dropdown menu, or navigate using the hierarchical Actions pane below.



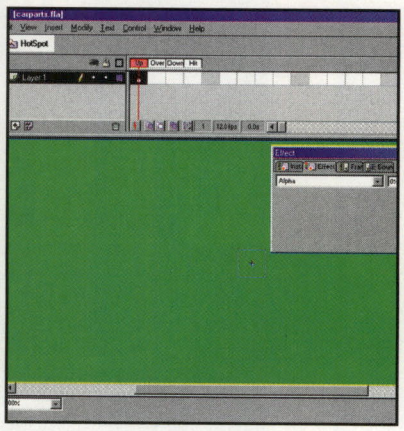
5 Click on the Basic Actions category and double-click on Stop to add a Stop action. Insert another keyframe at the end of the movie clip and add another Stop action. Notice that you don't have to close the Actions editor to make changes in the stage or the timeline.



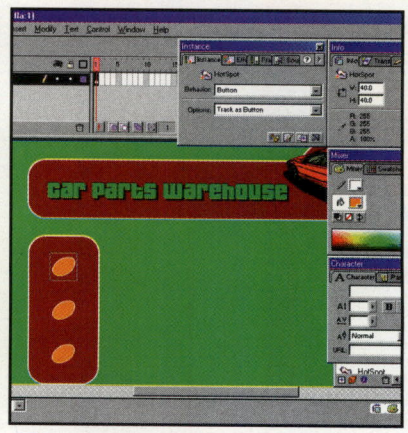
6 Now add a keyframe at frame two. Go to Window>Panels and choose Frame to open the Frame panel. Give Frame two the label 'play'. Click on keyframe 1 and give it the label 'park'. Again, note that you can easily swap between the movie you are editing and the current panel.



7 With the button animation completed, go to Insert>New Symbol and make a button called 'hotspot'. Draw a rectangle, then select all the artwork on the stage and convert it into a graphic symbol. Now centre the artwork.



8 With the rectangle selected, go to the Effects panel and set the Alpha Transparency of the symbol to zero per cent. You'll find that this should make it completely transparent.



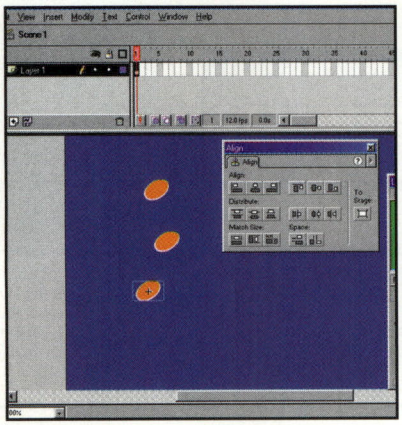
9 Return to the main stage and open the library by clicking Window>Library. You should have four symbols, two graphics symbols, a movie clip called 'ButtonAnim' and a button called 'hotspot'.

Part 2: Movie Explorer

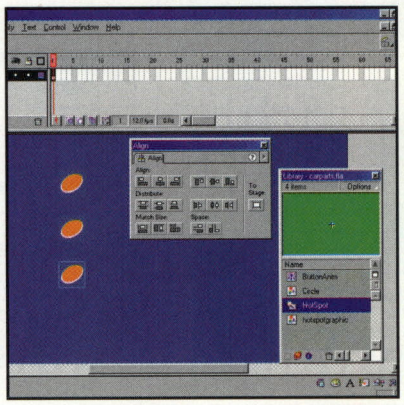
The Movie Explorer makes it easier for designers to keep track of multiple elements in *Flash* movies. We use it here while building buttons with multiple components...

Labels

A common practise for *Flash 4* authors is to create separate layers for labels and actions to make everything easy to find. With the new Movie Explorer, it's not quite so important to cut down the clutter, as *Flash* makes your movie easy to navigate.

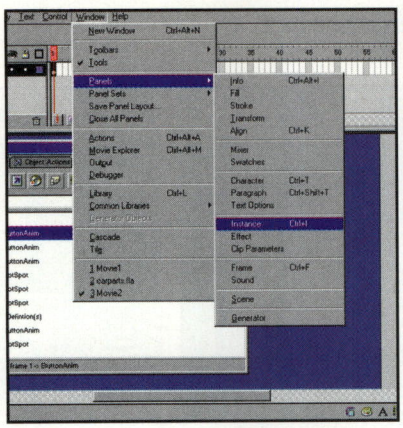


1 Drag three instances of the movie clip 'ButtonAnim' to the stage. Hit Control+K or Command+K to view the Align panel. Use it to vertically straighten and evenly space the buttons.

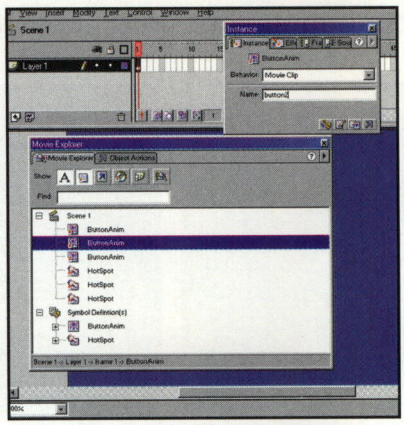


2 Drag three instances of the graphics symbol 'hotspot' to the stage. Again, using the Align panel, centre the three instances over the three button animations. Go to the Window menu and open the Movie Explorer.

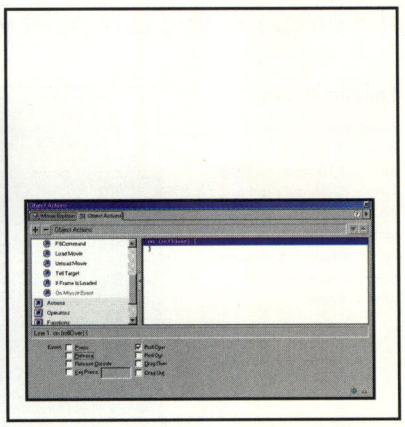
3 In the Movie Explorer, ensure that the 'Show Buttons, Movie Clips and Graphics' switch is toggled on. In the panel below, you should see three instances each of the 'ButtonAnim' clips, as well as the 'hotspot' button.



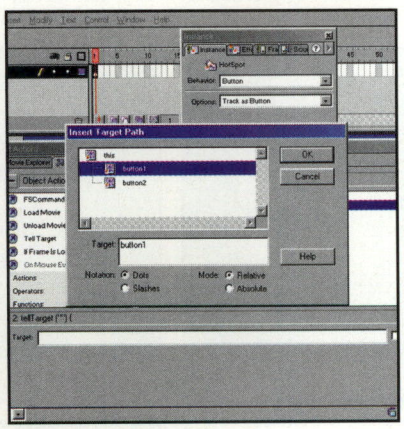
4 Select the top instance of the 'ButtonAnim' clip in the Movie Explorer, then go straight to Window>Panels>Instance to open the Instance panel. Give the clip the name 'button1'.



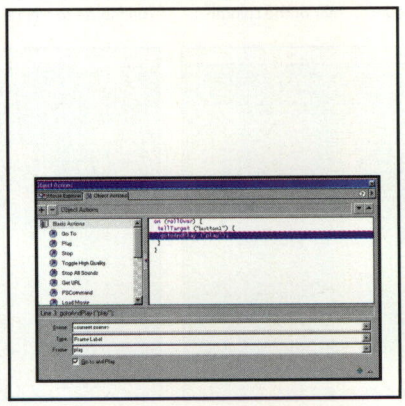
5 Now click on the next instance of the 'ButtonAnim' in the Movie Explorer and give it the name 'button2' in the Instance panel. Afterwards, name the final clip 'button3'.



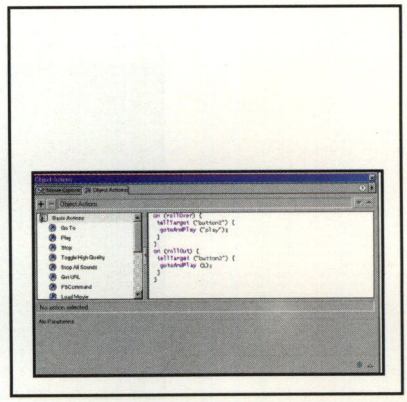
6 Select the top instance of the button 'hotspot' in the Movie Explorer, then select the Object Actions tab in the same palette. Add an On Mouse Event action, and select 'Roll Over'.



7 Below that, add a Tell Target action. At the bottom of the window you should see a 'target' icon; click on it to see the list of targets. The three buttons should now be listed. Choose 'button1'.



8 Add a Go To action. From the parameters below, leave 'Scene 1' as selected, choose Type: Frame Label and enter 'play' in the Frame box. Add further actions to send the playhead back to the beginning on Mouse Out.

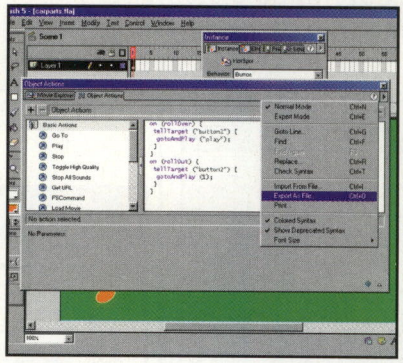


9 Highlight all the script and choose Control+C (or Command+C on the Mac) to copy it to the clipboard. Switch back to the Movie Explorer and choose the next 'hotspot' down. Return to the Object Actions editor and paste the script in.

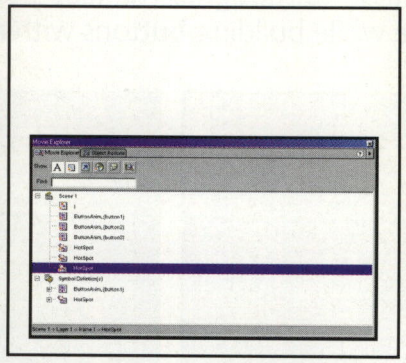
Part 2: Movie Explorer, continued...

Moving pictures

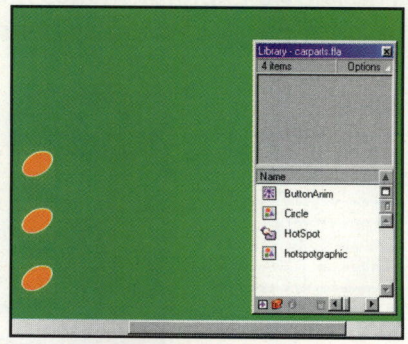
The Movie Explorer also encourages you to treat movies in an object-orientated way. Build animations up from movie clips and use the Explorer to add interaction and exert control afterwards.



10 Alternatively, in *Flash 5* you can also save scripts to external text files by choosing Export as File from the menu along the side of the panel, then importing using Import as File.



11 Alter the script to refer to the right button, by selecting the first Tell Target action in the script and changing the contents of the script box to 'button2'. Alter any other target references.



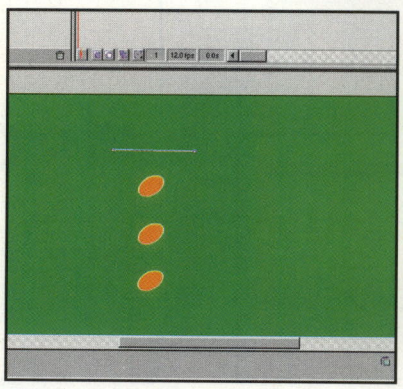
12 Repeat the cut-and-paste operation for the third and final hotspot, changing the Tell Target actions to point at 'button3'. You now have three independently operating buttons that were built using the same movie clip, button and script.

Part 3: Bézier tools

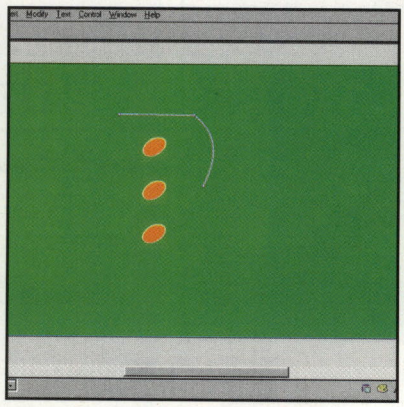
Flash 5's extremely smart Bézier drawing tools are a welcome addition to the program, and can make your buttons look much more realistic...

Lending library

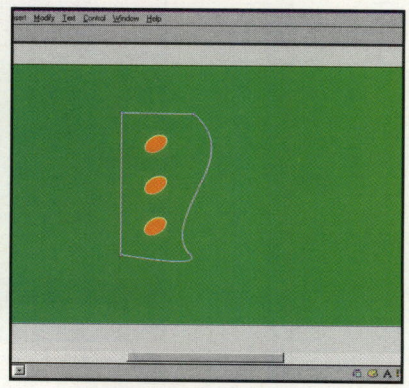
You know you can drastically cut down file sizes by re-using generic library items throughout a movie. But you can also use the Transform and Effects panels to change the appearance of individual instances to disguise repetition, especially with common shapes.



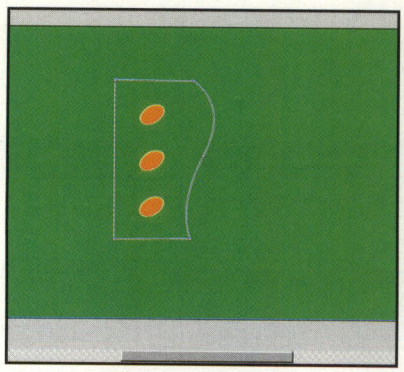
1 We're using the new Bézier tools to design button backgrounds. Create a new layer and move it to the bottom in the timeline. Select the Pen tool and click in the top-left corner of the column.



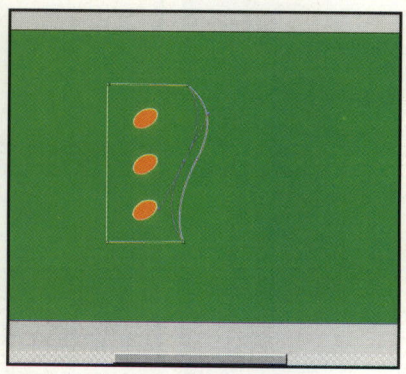
2 With this first point in place, add a second pin to the right corner. Now add a third. Click-drag the mouse to create a curved line.



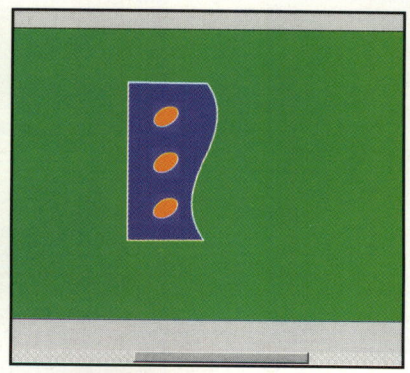
3 Complete the shape by adding further points until you reach the first point again, where the shape automatically closes. With the Pen tool still selected, hover the cursor above a point on a curve.



4 Clicking on the point will straighten it. If the point already lies on a straight section, clicking will remove that point entirely. It's also possible to add additional points, by simply clicking on sections of a highlighted line that don't have any.



5 While drawing, you have two further modifiers. Holding down Shift constrains the curve to 45 degree increments, while clicking the Control or Alt key ends the current path and enables you to start a new one.



6 You can alter the curves you have already drawn using the Subselect tool (the white arrow in the Toolbox). Click and straighten points or adjust curves using Bézier handles. You can also fill enclosed paths with the Paint Bucket. ca

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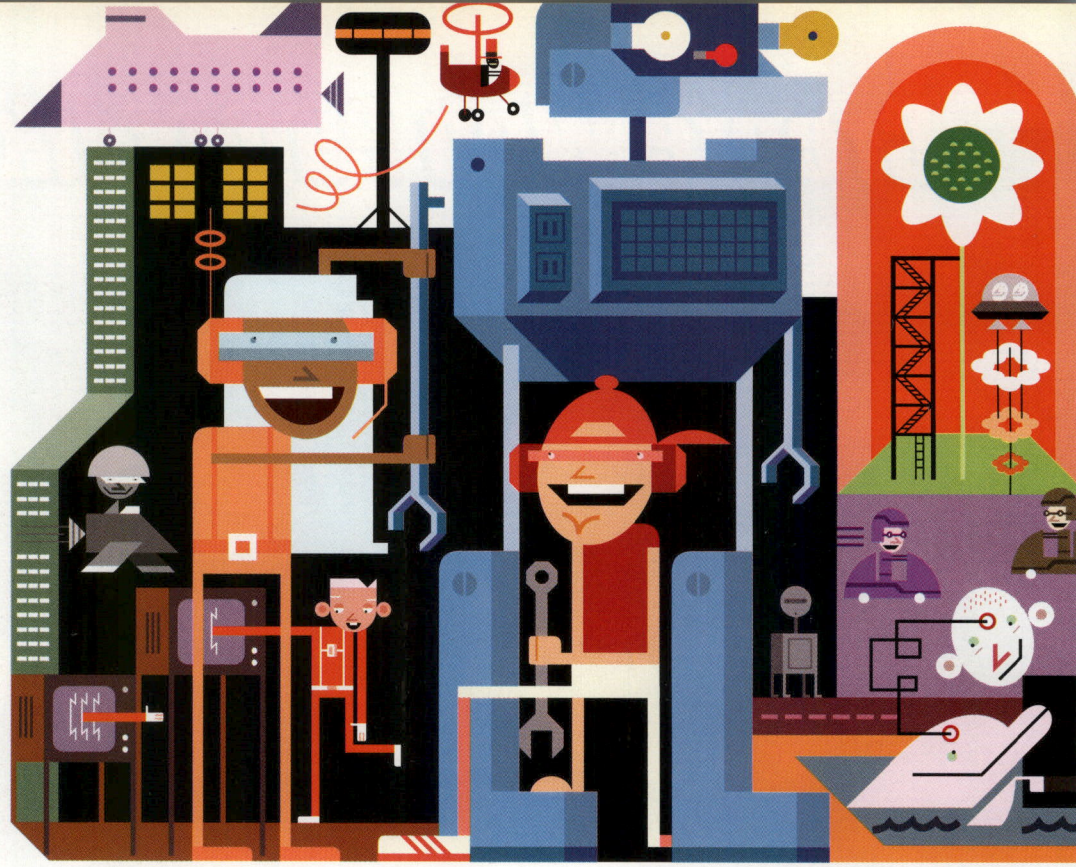


Led Pants

One of the Internet's great unsung designers: *"I always keep my opinions and my politics present somewhere in my drawings..."*

Led Pants is an individual — believe it or not," jokes a curiously furtive Mr Led Pants, invisible behind an impenetrable, colour-busting cornucopeia of Pants trademark toon artwork — always fresh and vivid, sometimes subversive, and often lined with a bitter drop of Lynchian twistedness and eco-politics. "It's not my real name," he adds. "On one level, it's just a big joke. I like it when people are unsure whether the name is meant to be fanciful or lurid, and when art directors ask, 'Is Led Pants in?' But on another level the name acts as a shield to protect my self-image from my work. And that's definitely a good thing."

A one-time aspirational director, Led soon tired of the fundraising circus and found solace in a new kind of expression. "Drawing was a more economical, personal, and natural way to express my creativity and my politics," he says. His first creative stint was for Microsoft, designing art for its Investor Website. "All my illustrations needed to be smaller than 5K," he remembers, "so I minimised file size by minimising dithering. Dithering is best avoided by using solid colours and straight lines. The resulting style was just a response to the medium. In fact, I remain obsessed with removing dither."

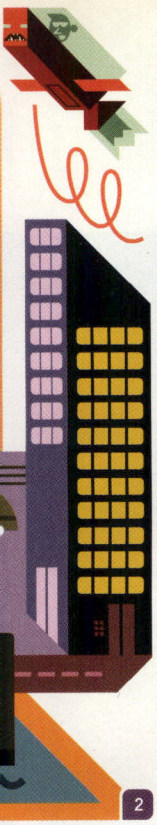
That style is now Led Pants' signature motif, and a hugely successful one too. This Santa Fe-based designer has provided print and Web material for, among others, Amazon, Disney and Nickelodeon, although he's pretty modest about his achievements: "It's not so difficult to get big names on your CV. Each of these giant corporations consumes a tonne of art annually. In my experience, the best work — and the best pay — do not necessarily come from the biggest brand-name clients."

With such a successful branding under his belt, you'd think Led Pants would be a little reticent about revealing trade secrets. Not a bit of it. "It's all down to Adobe *Illustrator*," he says candidly, "and a fair whack of elbow grease. Anybody could do this..."

But it's not all levity and brevity at chez Led Pants. Get him on the subject of high art and he sharpens his claws: "I enjoy producing art that is widely distributed and widely accessible," he mutters. "I thumb my nose at high-falutin' fine art snobs just like everyone else." Not that he isn't inspired by a few critic-appeasing nobles from the pantheon: "I admire Hieronymus Bosch and George Grosz," he admits. "I met John Hersey once. I think he's the greatest digital illustrator. His style goes all over the map using every technique imaginable, and yet it always retains an identifiable wit and organising ideology. He transcends style".

Currently finishing a clutch of book projects and soliciting more work for Led Pants, the eponymous designer is currently eager to carve out yet more colourful swathes with new virtual personality sites. And after all this? He's to the point: "Continue to promote environmentalism. Enjoy spending time with my wife. Climb some rocks." ca

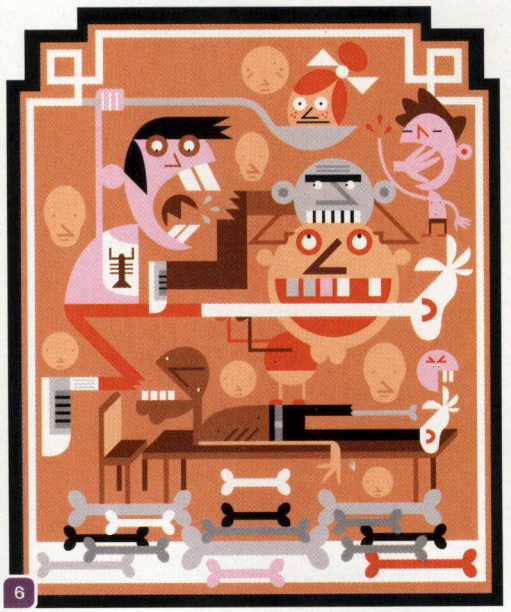
You can contact Led Pants by phone [t] 001 505 955 0799, on email [e] led@ledpants.com or via his Website at [w] www.ledpants.com



1. For Led Pants, the story behind this image – generated solely in *Illustrator* – is simple and to the point: "It's a picture of shoes I produced for a magazine article about, er, shoes..."

2. "This was produced for Toshiba's Exploravision awards. I tried to soften and humanise its vision of the future by including some organic technologies: the giant flower and the dolphin-communication-system. I'd like to think that the future isn't just glass and pavement."

3. "This picture is the second frame in an e-card I designed for Amazon.com," Led explains. "The first frame was basically an empty forest scene with the words, 'Somewhere deep in the rainforest', and when this second frame came up, the animals appear from behind the foliage accompanied by 'They are counting on you.'"



4. The image here was produced to commemorate the Asian version of the Academy Awards. "It was a reader survey thing, thus the kids in front with the pen and ballot. The best thing about it is the colours – the same garish oranges and deep blues and reds used in movie theatres across the States!"

5. "This one is a promotional piece I did in the summer" Led tells us, "advocating swimming pools!"

6. "For the 2000 version of my Website, I indulged myself and created a Chamber of Horrors. It covers all your usual horrors – the iron maiden, guillotine, Frankenstein – plus a few things that actually creep me out totally as an adult: nuclear war, toxic waste, and in this case overpopulation."

7. "This illustration was for a site called Parent-time, a subsidiary of *Time Magazine*. The article was about the sleep needs of young children."

8. Another animated section from the Chamber of Horrors, found at the virtual home of Led's work, [w] www.ledpants.com "The head actually spins!"

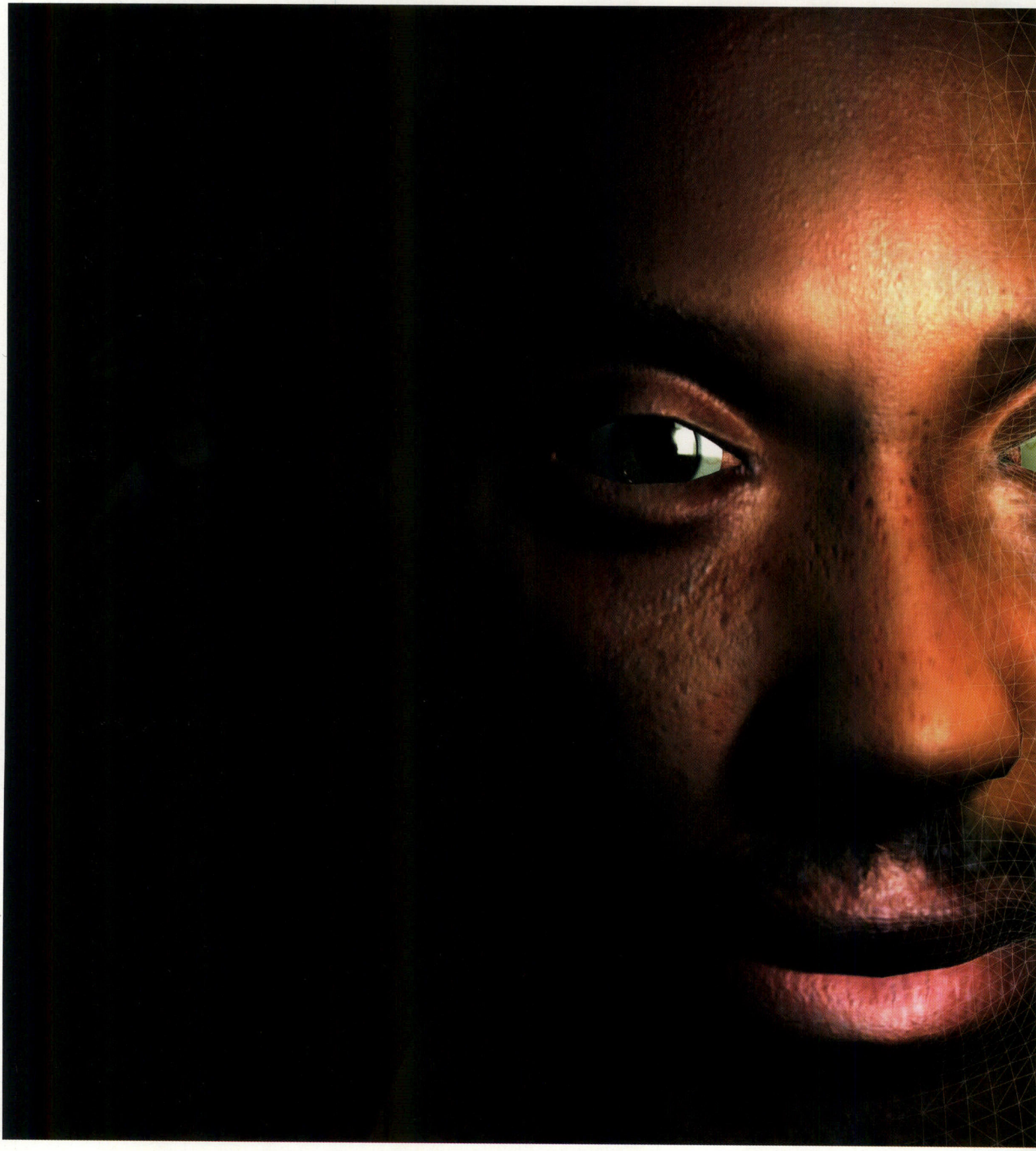
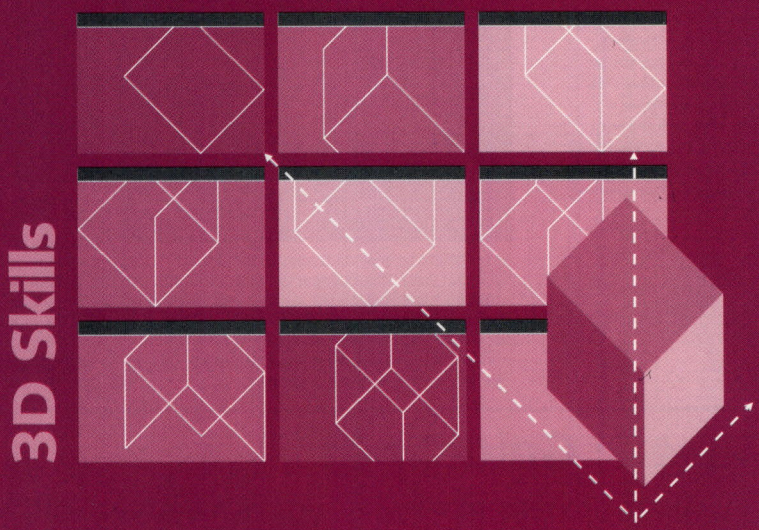


Illustration: Simon Danaher **Email:** simond@naher.demon.co.uk



3D Skills

Subdivision Surfaces

Many modelling technologies are in use today, polygons and NURBS being two of the most prevalent. But another looks set to become the undisputed champion of organic modelling...

Also known as MetaNURBS, HyperNURBS, UberNURBS or Sub-Patches, Subdivision Surfaces have taken years to become a widespread feature in 3D packages. Subdivision Surface modelling takes the best part of polygons and NURBS and merges them into a hybrid, greater than the sum of its parts. In fact, technologically speaking they aren't really NURBS at all – in reality they simulate the smooth flowing surfaces of NURBS, but produce them with the hands-on simplicity of polygons.

Subdivision Surface modelling does requires a slightly different approach to working with polygons, and is entirely different to using NURBS. In this two-part series we'll be taking you through all the rules and techniques you need to know to get the most from them. The technology is more or less universal, so you should be able to follow the steps no matter which 3D application you are using...

Demo and tutorial files

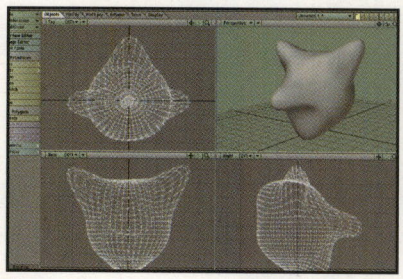
You can follow this tutorial using the demo of *Cinema 4D XL 6* on your CD. You'll also find two tutorial files in Dual\Tutorials\3DSkills. Artwork and expertise supplied by Simon Danaher, [e] simond@naher.demon.co.uk

Part 1: The basics

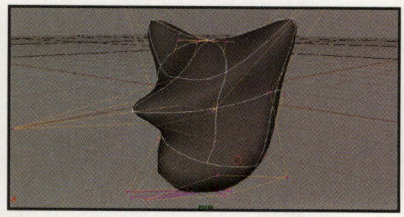
How Subdivision utilises the best parts of NURBS and polygons...

Extra detail

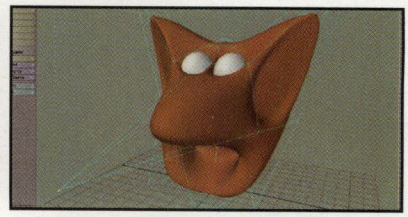
While it's not possible to add detail locally to a NURBS surface, some programs (such as *Softimage*) achieve similar results by enabling you to literally stick on additional detailed patches, merging them with the underlying surface using deform-by-surface techniques.



1 What's so important about Subdivision Surfaces? This example should answer that question. Here you can see a polygonal object being sculpted, but there's a bit of a problem. To have a smooth flowing surface you need lots of polygons, and that means the surface becomes hard to edit due to the sheer number or vertices.



2 We're doing a good job of editing the points using a fairly sophisticated Magnet tool. However, there comes a point where you can't mould one part without affecting other vertices. Developers could have continued creating ever-more sophisticated tools to deal with this problem, but the modelling procedures would still become more and more complex. Here a NURBS object was created by pulling single vertices at a time, yet the results are similar.



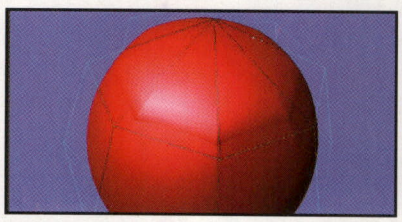
3 The problem with NURBS, though, is that there is no way to increase the resolution of the geometry on a small section of the surface – you have to add extra divisions right the way around the model. Subdivision Surfaces takes the idea of an outer cage that controls a smooth surface beneath it, like NURBS, but uses Polygons to do so. Here's the Subdivisional version – notice that we can also easily increase the geometry to add eye sockets, a mouth and define the ears.

Part 2: Guidelines

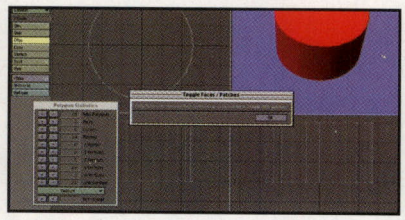
Some rules to remember when you're modelling with Subdivision Surfaces...

No limits

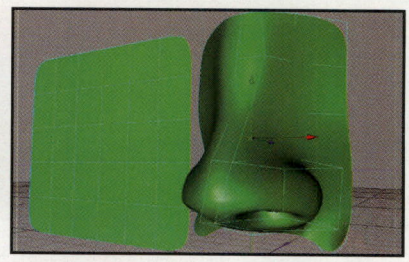
Because Subdivision Surfaces use an external cage object – which is essentially a number of polygons – there is no restriction to the way the net of polys can be joined up. As long as you can keep them all with four sides, anything is possible.



1 Subdivision Surfaces come in many different forms, each with its own idiosyncrasies. There are some general rules that you should at least know about (you can always break them). The first, is that you should always keep the polygon cage as Quads – it should be made up of a net of four-sided polygons. You can use triangles, but you'll often get creases as a result. Here a sphere is used as the control cage – notice how at the top, where there's a ring of triangles, there are also some nasty creases.



2 If you stick to this rule, at least to begin with, you'll steer clear of many pitfalls. Some systems enable you to use polygons with more than four sides (*Electric Image* for example) while others can't cope with this and will refuse to convert the polygon object into a Subdivided object. Here *LightWave* announces that it cannot convert the object because there are some faces with more than four vertices. Reconstructing the base object with all quads would be advisable here.



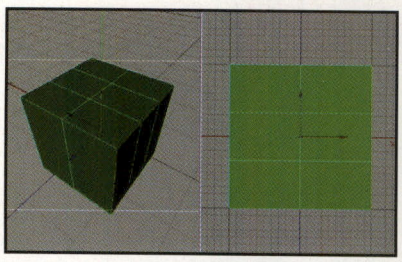
3 Cylinders, most types of sphere, cones and many Platonic objects are not a good starting point for a Subdivision Surface model (there are exceptions of course). So basically you're left with cubes, tori and planes, which doesn't sound too thrilling. But that's missing the point. Here's a nose that began life as a simple plane. Simplicity is really the essence of Subdivision Surfaces modelling.

Part 3: Planning the base object

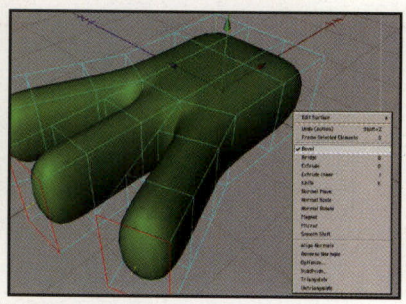
Planning the number of points you'll need to create your object will save time later...

Smooth operation

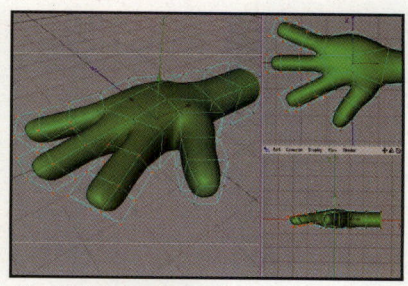
Subdivision Surfaces come in many flavours, but many of them can be thought of simply as a smoothing operation. The smoothing applied to the polygon cage uses a special algorithm (of which there are different types), which subdivides the surface – hence the name. This has the effect of rounding off sharp edges and shrinking the volume.



1 To create a Subdivision Surface you must begin with a polygon object (*Maya* can use NURBS as a base object, too). Some thought should go into the division of this base object – you need enough points to be able to sculpt the shape you want, but not so many that it becomes difficult to control. To create a cartoon hand we begin with a cube, then divide it to create a grid of polygons 3x2x1.



2 Next the cube is converted to a Subdivision Surface (known as MetaNURBS, or in this case HyperNURBS), then scaled in Y. The centre-front poly is selected and moved forwards, a step that will splay the fingers. The front row of polygons is bevelled outwards three times to create three digits.



3 Finally, a thumb is bevelled out from the rear-side polygon and the wrist is extruded from the centre-back poly, which had been scaled in Z. Some final shaping is done simply by moving the vertices. You can see that if the cube had been divided in some other way it might have made the modelling process much more difficult. It pays to plan ahead.

Part 4: A modelling assignment

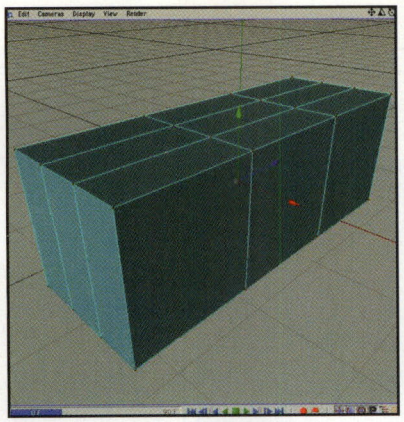
Here we'll create a jet engine using Subdivision Surfaces...

Variations

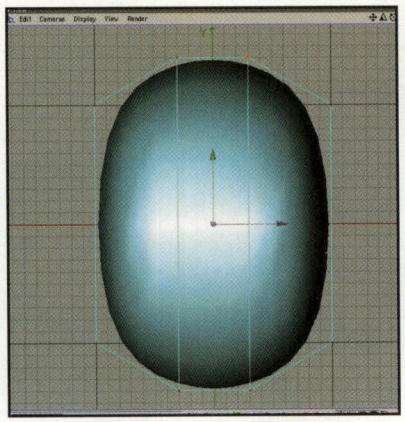
Maya's Subdivision Surfaces work slightly differently than the others. You can choose to work in either Polygon mode or Hierarchy mode, and the latter enables you to actually edit the surface itself, independently from the polygon cage.

Adjustments

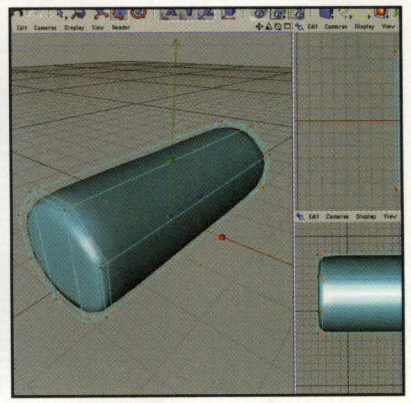
Often, you have an option to adjust the smoothness – the subdivision of the surface – in your 3D app. A value of 2 for example would smooth the surface twice, resulting in double the number of polygons (that the smoothed surface is made from, not the cage) than a value of 1. You can increase this value much more for rendering.



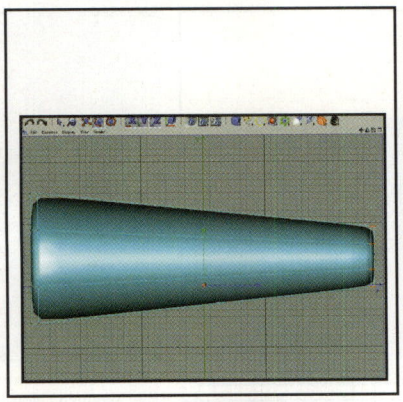
1 Now you have the basic principles down it's time to have a practise. We'll create a jet thruster, beginning with just a cube. You can use whatever program you like – the principles remain the same. Begin with a cube object, subdivided as X=3, Y=1, Z=3, then stretch it in Z.



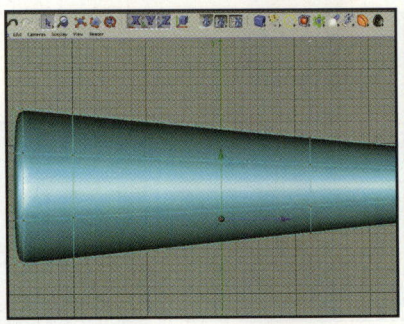
2 Convert this to a Subdivisional Surface. Now, in the front view, select each of the centre rows of points (not the corner ones) and drag them out to create a hexagonal shape as shown above. Using Grid Snapping would be advisable too, just to keep all the elements symmetrical.



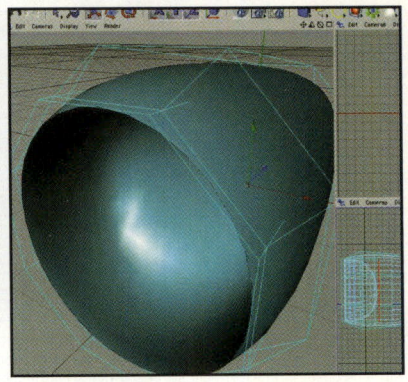
3 We continued reshaping until the hexagon shape was more or less regular and the Subdivision Surface appeared round. Next we selected the two centre rows of points that divide the object in Z, and scaled them in Z until they were very close to the edges. This sharpens up the ends of the object and produces a more well-defined edge.



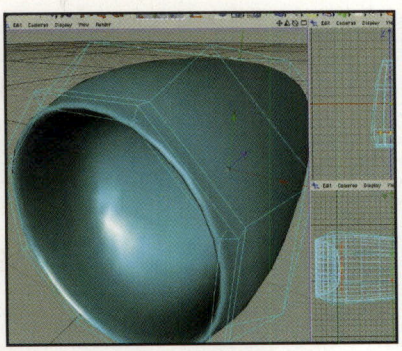
4 The rear section of the object was selected and scaled down to create the exhaust end of the engine. At this point we realised that we hadn't planned our base object too well, and would need some extra geometry.



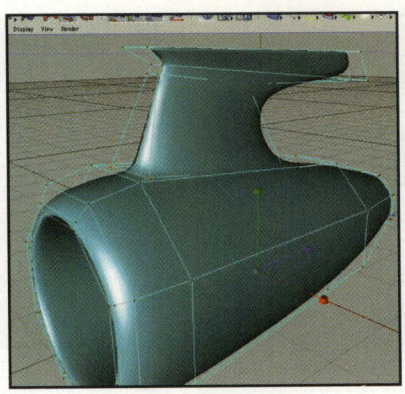
5 Subdivision Surfaces are pretty flexible, though, so you can usually find ways to add extra geometry if you find you have fallen short. So long as the object isn't too irregular you can use a Knife tool (or similar) to slice through the polygons and create new vertices. Here two extra rows have been added using *XL 6*'s Knife tool. *LightWave* and *Electric Image* also have Knife tools, so you should be able to get the same results in these programs.



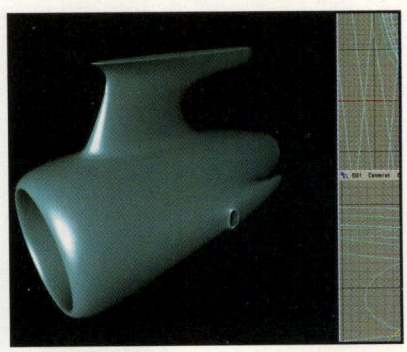
6 These two rows are selected and scaled to create the curved shape of the engine housing. The next step is to create the air intake. Select the front three polygons and extrude (bevel) them inwards. What you'll notice is that the rim created becomes very thin – not how we want it at all.



7 Undo the extrude. To fix this create an inner bevel, which shrinks the polygons towards their centre. After you do this you can then extrude inwards as before, except that now you'll find there's a nice rim which has thickness. Extrude a few more times to push the intake deep into the housing, then delete them to open the end. Repeat the procedure on the exhaust's end.



8 To create the strut that joins the engine to a wing, select the top-middle polygon and create an inner extrude. Now you can extrude the poly upwards to build the strut shape. Once the geometry is there you can move the vertices to sculpt the shape.



9 Try adding some extra details by extruding some polygons. Here we added a little air intake to the side by extruding or bevelling polygons. The beauty of Subdivision Surfaces is that the amount of detail you can add is not bounded by an upper limit. The final model is saved as Jet.dxf (this is just the polygon cage that you can convert to Subdivision Surfaces in your own 3D package).

Part 5: Symmetrical modelling

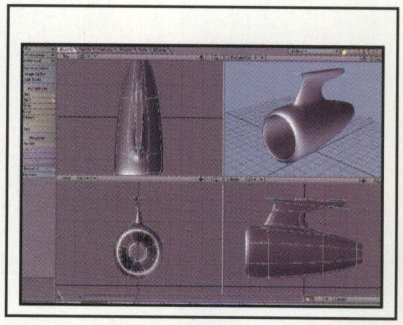
Using Subdivision Surfaces' Knife and Mirror tools makes it possible to make symmetrical objects both quickly and easily…

Peace of mind 1

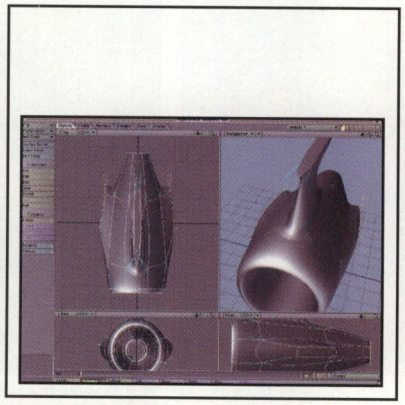
The other important thing about Subdivision Surfaces is that you needn't worry about continuity. Unless you work with NURBS you probably don't worry about this at all, but at least now you know that you never will!

Peace of mind 2

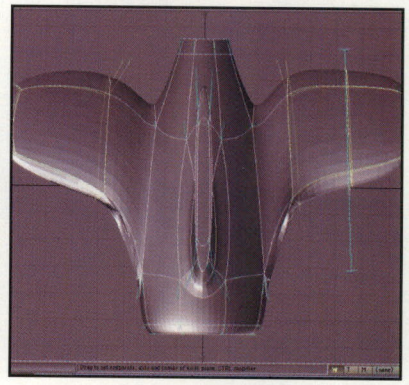
And the other important aspect, which may sound like something of a contradiction, is that you can also introduce discontinuity – like a crease or spike for example – at a point or edge on the surface. This makes it easy to add hard edges to your object without changing the geometry.



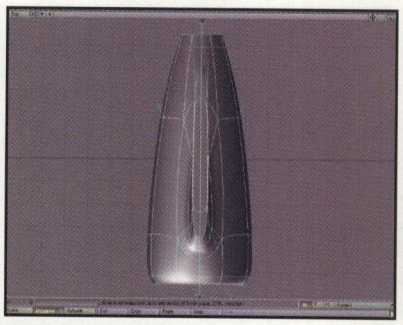
1 Sometimes you'll want to have an object symmetrical around at least one axis. You could use snapping and duplicate your modelling on the opposite side of the SubD, but that would be time-consuming. In our jet housing example, what do you do if you want to have an extra air intake at the opposite side? Open the file JetBasic.dxf and turn it into a Subdivision Surface (here in *LightWave* the Tab key toggles Sub Patches).



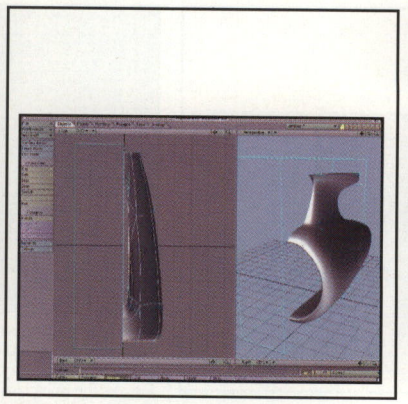
2 Some programs have a Symmetry feature (*XL 6*, *LightWave* and *Electric Image*), whereby edits are mirrored across a single axis. Here we've selected only one polygon and bevelled it – but the poly on the opposite side has also been bevelled.



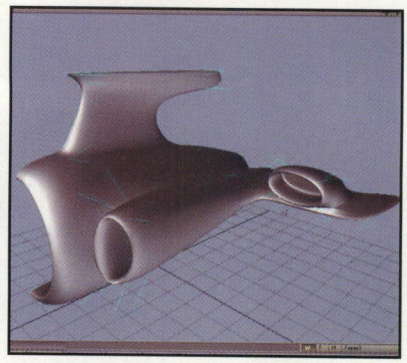
3 This method is perfectly fine for simple objects, but when things become intricate the software might not always produce perfect results, and not all the tools will necessarily work in this mode. Here the Knifing on one side is not being repeated on the other side.



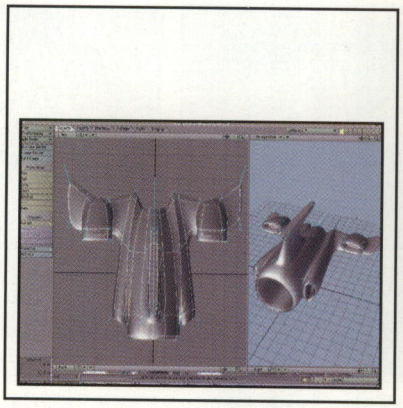
4 There is a foolproof way of producing symmetrical Subdivisional models, however, and it's very simple. Rather than create the whole model you create only one half. Open the file JetBasic again. Let's say you've come this far but decide you now need some symmetry. You first have to divide the model in two. This is easily accomplished by either a Boolean operation or (even better) using a Knife.



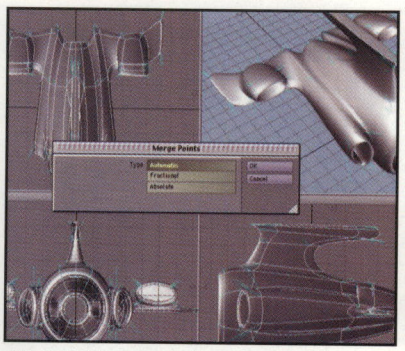
5 Thanks to the Knifing there's now a row of points running down the centre of the model, creating a plane of symmetry. This makes it easy to select and delete one half. In *LightWave* the Volume selection method is ideal for this.



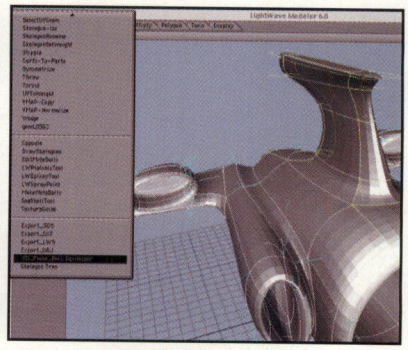
6 If you know from the outset that you'll need symmetry, you can create the base model with that in mind. Now we have one half we can continue modelling. Here we've added a ridiculous and unnecessary extra detail to the side of the housing, something that would be quite difficult to duplicate manually.



7 To create the opposite side you can use your app's Mirror tool. In *LightWave* the Mirror tool is interactive, which is extremely handy. If you don't have a specific Mirror tool, though, all you need to do is duplicate the model and scale it -1 in X.



8 In *LightWave 6* the Mirror tool automatically merges the duplicate points along the common edge. In *LightWave 5.6* you can use the Merge command. Other apps might have an Optimise function that should do the same thing, that is, merge overlapping points or those within a certain tolerance. This joins the two halves and removes the central seam which might appear.



9 The centre row of points are unnecessary now, but it is difficult to remove them. *LightWave* users can benefit from the free plug-in *Plane-Belt Optimiser*, which you can find at **[w]** www.Flay.com By simply selecting a single pair of polys that span the seam and running the plug-in, the double band of polys will be merged into one, removing the central row of points. ca

SAMSUNG ELECTRONICS

Is your monitor cramping your style?

Samsung's SyncMaster 240T 24" widescreen TFT monitor gives you the screen space you need to get a clear overall picture of your design project.

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Letters [ca.mail@futurenet.co.uk]

Macs and Mac Format

How come your Apple Mac hardware reviews conflict with those in *Mac Format* (also published by Future), especially regarding the operation speed of the Apple processor versus Pentiums? We read in *Mac Format* that the latest fastest Apple processor is faster in *Photoshop* tests than the latest fastest Pentium, ostensibly running at twice the speed (500MHz versus 1000MHz), and that this has been borne out by public demonstrations by Steve Jobs. Yet your mag says the opposite. I'd like to know which is true, but more importantly why the difference of opinion?

Simon
simon_king@cwcom.net

We can't answer your query accurately, Simon, without knowing which article or test you're referring to specifically. However, in issue 48 of Computer Arts we reviewed six PCs and one Mac, running identical real world tests in Photoshop, and the 500MHz G4 performed adequately, but was tested against Intel-based systems with higher clocked chips (733MHz and up) and, often, dual processors. On some tests its performance was comparable; on others it lagged well behind.

As to the computer tests run by Steve Jobs, well, they're unlikely to turn out results that are unfavourable to Apple, and we can't speak for the tests Mac Format has run. It's a separate magazine with its own editorial agenda. Hence you may find different tests are run and

Bottom Linux?

I have to say, it takes a lot to force me to write to magazines, but the October issue finally did it. I was stung into action by Paul Roffey's letter about how Linux people seem to cross into 'unnatural love' for an OS. I cannot see how anyone from the Apple world could seriously accuse Linux/UNIX or Wintel users of unnatural love without looking at their own history. I have to say that I have often been on the receiving end of a Mac-ite, preaching about 'God's own operating System'.

However, Paul does make a good point, and that is that the computer is a tool. It's a means to an end, and not an end in itself. Equally, Tony Luke's letter must be classed as one of the best letters published in this or any other mag. People need to understand that it's the artist's talent and not the computer system that makes creativity. Yes, I also accept that good software and hardware helps, but if you put a chimp in front of *Photoshop*, you still get the same result as giving it a box of crayons.

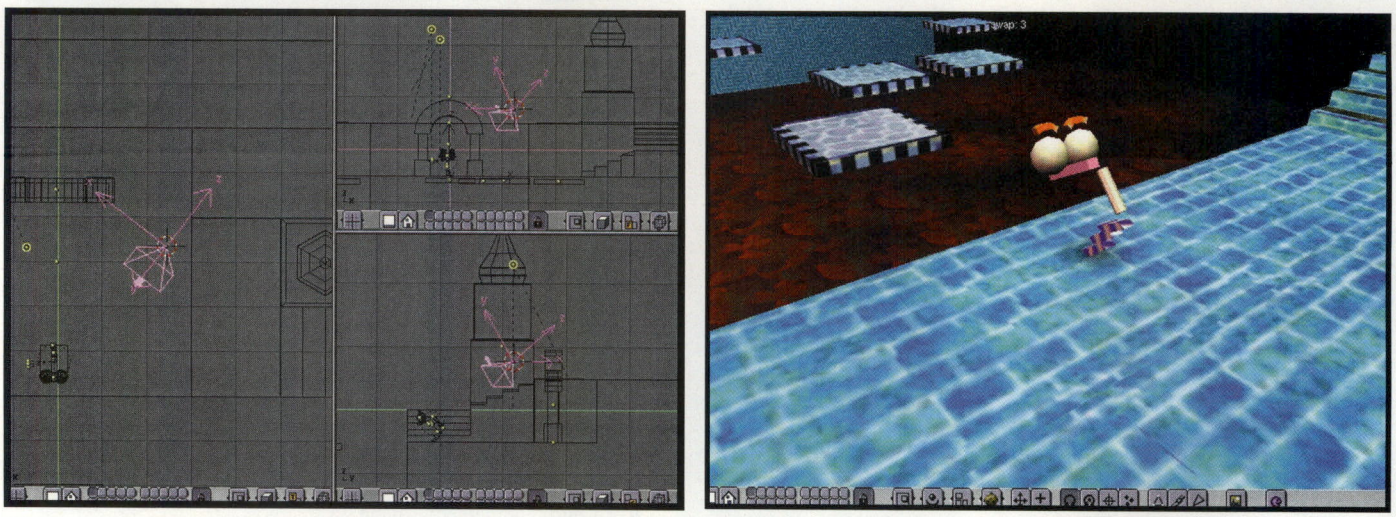
This brings me to my main point. I know that you have a policy of not reviewing 'free' products, but you do everyone a real disservice by doing this. Yes, you can't buy *Photoshop* or *Max* for Linux. So what? There are tools available, either free or at low cost, enabling people to work in the CG field. Some of the tools aren't up to the standards of Wintel or Mac, but many are. Applications like *Gimp* or *Blender*, produce the output quality of *Photoshop* or *Max*. I agree that they may not be as easy to use or have as many add-ons, but they're available, useable and give a great deal of functionality.

So, please, stop looking down on an OS that's cheap – and remember you're dealing with a version of UNIX, and as you already know, UNIX can deliver what OS9 and Windows 9x/NT/2000 only promises.

Liam Collins
Senior Systems Engineer, NOVA Industries Limited

We're still not planning to review freeware in Computer Arts, but that's not to say we won't be writing about it. In fact, our news section often includes details of free apps and add-ons. The OS an application requires really doesn't concern us. However, there's still some distance between free applications and professional packages. If that weren't the case, don't you think Adobe, Macromedia and Discreet would be going out of business? As one of our friends in the industry once said, "If you want Hollywood effects, you have to make a Hollywood effort." And that can mean spending a bit of money.

Keep your eyes peeled, though. We have plans to include features on free software and Linux software in future issues. If you're interested, we'll be including Blender 2.0 on the CD with our next Computer Arts Special, which is on 3D Basics. Oh, and one other thing: we know some very talented chimps...



Blender comes in Windows, Mac and Linux flavours, and you can get it with the next *Computer Arts Special*. However, we wouldn't class it as a replacement for *3D Studio Max*.

different results crop up. Isn't diversity a wonderful thing?

Bonza!

I'm a long-time reader of *Computer Arts*. I made my regular monthly trek up to Barnes & Noble to buy issue 48 (and I also found and bought an issue of *3D World*). At home, a scratch-and-win contest ticket fell out on the floor — a Future Publishing promotion. Normally, I ignore 'fall-out' stuff like that, and I seldom if ever buy scratch-off lottery tickets. But, I felt compelled, somehow, this time to try...

My symbol in the starter's panel I had to match was a star. So I rubbed off one to reveal a fish, then a UFO, and a mushroom, and then, with two spots left, I uncovered a second star! I 'd matched a pair of stars! Yes, I finally *won* something! If, of course, the contest hadn't already ended, and if I was a resident of the UK, what would I have won for my exertions? I'm dying to know.

I realise you usually don't answer this kind of off-the-wall question, but I'm curious because I seldom, if ever, win anything on these things.

Mr R Jesse (aka: DogsBreath)
DogsBreath@ContextualStudios.com

This is one of the most interesting letters we've received for a long time. Occasionally, our advertisers like to insert scratch-and-win tickets in our magazine. We're not sure exactly which company was running the competition from your brief description, but we reckon that if you matched two stars you would have won either a pen, a lighter, or a free kit for making ice cubes in the shape of golf balls.

Seems perfectly clearly laid out to us, and we've had no other complaints about the design of *Computer Arts*' contents page. (See next page.)

The Corel corner

I've just been reading your news about *CorelDRAW 10* on your Website. It says it is "...fast catching up with the market leaders." This brings me back to an old mystery: Why is *CorelDRAW* considered as second-rate, an almost-but-not-quite-there product? In my naive view, it's innovative, full of features, and has the best interface I know (I use *CorelDRAW 8*!). I have a friend who works on *FreeHand 8*, and I gave him a go on my *CorelDRAW* copy. He was so impressed, he's now considering making the move across. So what am I missing working in *CorelDRAW*? I'd really like an answer to that. As one Israeli poet wrote: "If there is another kind of sex\Bring it over and we'll get to know it\We'll speak frankly\Is there or isn't?"

Gush Goldstein
f-art@inter.net.il

Thanks for the poetry. It seems to be a month for strange letters... CorelDRAW is a big bundle of software with tools included for doing a variety of jobs. Here in the UK it doesn't have the same level of market presence on designers' desktops as Illustrator or Freehand. If you're happy with it and it does all the things you need it to do, then chances are you aren't missing anything. For the latest, read our story on the program in this issue's news section (starting on page 8). Next issue, we hope to bring you a full review of the program.

You've won either a pen, a lighter, or a free kit for making ice cubes in the shape of golfballs

Theory and practice

My name is Iordanis Economu and I am from Greece. I have been working for a service bureau office as a graphic designer for about three years and I consider myself a mature employee. I also buy your mag every month, although I do not have time to read it thoroughly. I would like to gain more theoretical and practical knowledge about my job, and since I am not aware about relevant courses in England I thought that you may be able to help me. I am interested in a one-year course (perhaps two) about DTP and the printing industry.

I know that you have published an issue which had to do with relevant courses at several universities, but these are three-year courses. Perhaps you could suggest to me a college were I could find the right course (and a short one at that).

Iordanis Economu, Greece
danos@egnatia.ee.auth.gr

With issue 46 we included a Graduate Showcase supplement that featured work by students on courses at 12 leading design colleges around the country. Your request is quite a specific one, and we don't have information on every design course available in the UK.

It might be worth emailing the colleges in our showcase first, and then searching on the Internet. If anyone reading this can advise Iordanis, please drop him an email, or contact us and we will forward the information on to him.

How rude!

The CA Live! show was really good. Thanks, guys, for all your hard work. Having visited the Macromedia stand, I was presented with a free T-shirt. Never having been one to look a gift horse in the mouth, I said thanks and closeted it away in one of my many free carrier bags. But I now know I'll never wear it.

Speed *is* an issue. At least the new G4 provides an extra boost in that department, courtesy of its twin processors.

Some clever promotional whizz decided to go for the *Flash 5* angle. No problem there; from what I've seen and read, it's an excellent product. But the T-shirt has the slogan, "How in F***** did they do that?" Now I'm not a prude, and it's not explicitly obscene, but the innuendo is obvious.

As a Christian, I don't use such language, although I don't consider it up to me to dictate how other people speak. But I believe there should be a level of public acceptability and, frankly, this cheap slogan doesn't meet it. I wouldn't want young children, for example, to have to be confronted with someone wearing this T-shirt.

All in all, I think it's inappropriate and far below the levels a reputable company like Macromedia should be reaching for. It's a cheap shot and could have been done much more worthily.
Dave White

Thanks for your compliments on the show, Dave. It proved very successful. We apologise if you were offended by the Macromedia T-shirt, but we weren't about to censor any of the material distributed by the sponsors of the show. Perhaps you could just turn the offending garment inside out? Or how about dyeing it?

Losing my Karma

Could we once more return to the original clarity of *Computer Arts*' Contents page – before the re-design? Back then, the Contents page was designed in a manner which was far easier to visually scan when going through my collection, looking for specific reference to topics and software reviews.

As one of the reasons I subscribe to the magazine is to build up a library of invaluable information, the last thing I want to be doing is squinting at the most important page to help me locate what I'm looking for. Strangely, it's the poorest layout in terms of readability in the whole magazine. I fear you may have fallen for the increasing phenomenon of style over substance.

Black type on white pages, please. Call me old fashioned...
The Karma Llama
karma.baby@virgin.net

This is the only complaint of this nature that we've received to date. We won't be changing the design of Contents page.

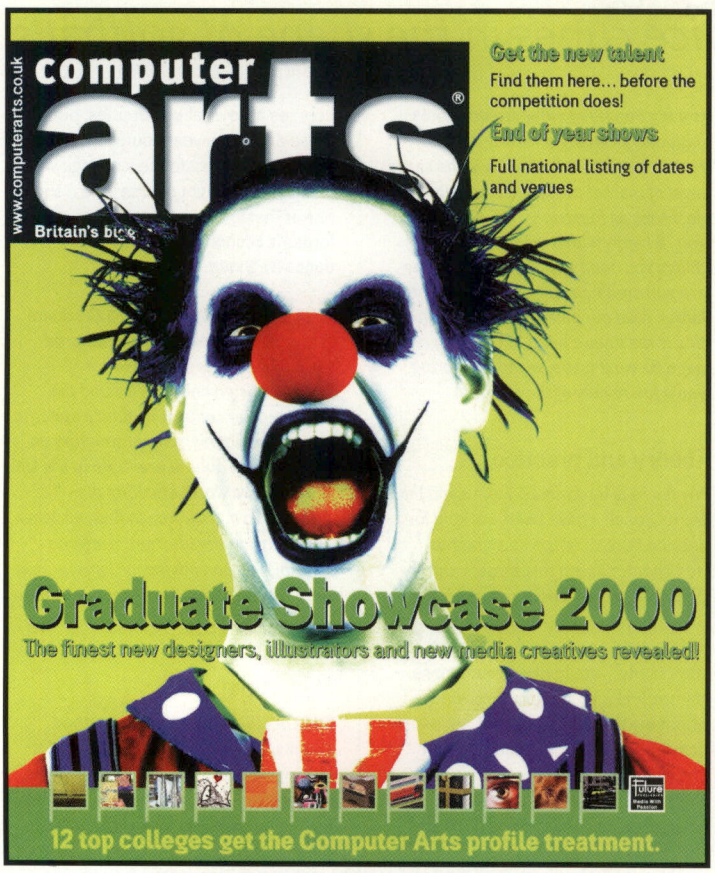
Getting your ins and outs

I'm a freelance artist with a tight budget, limited space and deadlines. I use a PC at home, but work with young people in community centres on Apple Macs doing arts multimedia workshops. All computer systems are useful, but there's still a big problem with them: the access to their back-end ports and plugs. It's like a nether world around there. Any idea of design sense – and legibility, in particular – seems to break down. So here's a message to box designers: with more people using scanners and digital cameras, and sound recordists doing their thing, we need clear ins and outs.

Also, could you write an extensive article on breakout boxes, please? You could cover what's available on both the Mac and PC, and how much they cost. Is it an easy or a good idea to build your own from scratch?
Dai Harding
daiharding@hotmail.com

That's an extremely interesting idea, Dai. We'll look into it. However, we see USB and FireWire as welcome plug-in-and-go technologies which could make the breakout boxes and so on you are having so much trouble with completely unnecessary. ca

We see USB and FireWire as welcome plug-in-and-go technologies of the future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Our annual graduate showcase is intended to highlight the creative talent coming out of British design institutions, but we can't really perform the role of an alternative UCCA.

Contacting us

Letters submitted are assumed to be for publication. Unfortunately, we can't answer urgent or personal queries sent to *CA* Mail, or requests for general information. If you need a quick answer to a technical question, head to the *Computer Arts* Forum at **[w]** www.computerarts.co.uk and post a message – chances are you'll have a reply within hours.

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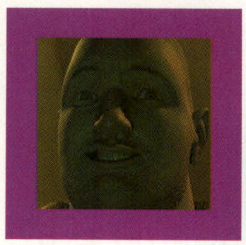

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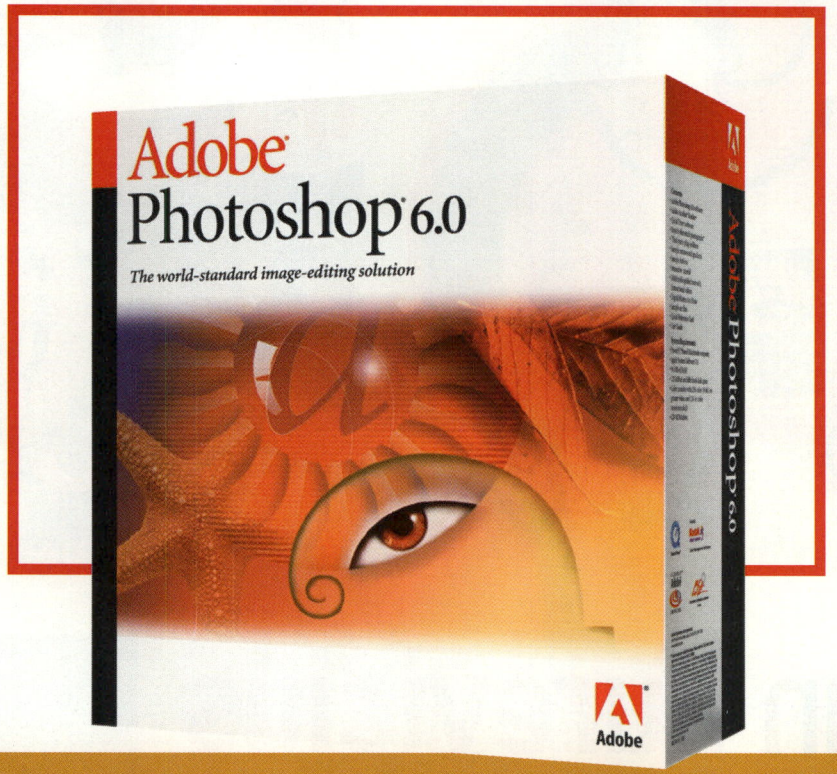

Win [Photoshop 6]

Four copies of the ultimate graphics application are up for grabs, courtesy of... Adobe

This month we've teamed up with Adobe to bring you the latest addition to its family of superb graphics apps. If you happened to catch our supplement free with issue 50, you'll know that *Photoshop 6* brings with it a plethora of both print and Web enhancements to make your life as a designer a much easier one.

One such enhancement is the addition of Layer Sets. These not only enable you to organise the now unlimited number of layers into tidy folders, but also to keep track of all your Layer Styles. Layer Styles are *Photoshop 6*'s reworking of Layer Effects. Within the Layer Styles dialog you can apply all the usual dropshadows, glows and bevels (as well as some new Layer Effects such as Stroke and Gradient Overlays), now with the added bonus of being able to see at a glance exactly what effect is applied to each layer.

Photoshop 6 also features some nifty new vector tools. Now you can easily create vector shapes or vector-based masks directly within the app. As well as this, there's a new Liquify command for the distortion and tweaking of pixels, enhanced PDF support along with other Web-orientated features, such as the ability to slice directly from *Photoshop* and improved Web-safe colour management.

There's also a context-sensitive Tool Options bar, enabling the easy navigation of Tool settings and Text options. And last but not least, the improved Text tools enable you to type directly onto the canvas, eliminating the fiddly dialog of the past. There are also tracking and kerning controls for advanced text entry.

So, if you want to be one of the first to get your hands on *Photoshop 6*, answer the simple question that follows and your print and Web productivity will never be quite the same again...

Find out more about *Photoshop 6* and other Adobe products by visiting [w] www.adobe.com There's also the chance to win some other great prizes at [w] www.computerarts.co.uk

The competition

How many layers can you create in *Photoshop 6*?

To enter

Try the easy way via the Web:
1) Play the *Computer Arts* CD.
2) On the Contents screen, click Current Compo.
3) Put *Photoshop 6* as the competition name, fill in the rest of the form, and then click Submit Entry.
Alternatively, if you don't have Web access you can submit your entry on a postcard to:
The *Photoshop 6* competition,
Computer Arts, Future Publishing,
29 Monmouth Street, Bath BA1 2DL
Please include your address and a daytime telephone number, so we can contact you if you win.

The rules

Closing date for entries is 30 November 2000. Employees of The Future Network, Adobe and their agents or families may not enter. Multiple entries will not be accepted. The editor's decision is final, there are no cash alternatives, and no other correspondence will be entered into. ca

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Nathan Jurevicius

Nathan explains his unique style: *"As the son of a colour-blind artist you're surrounded at an early age by interesting imagery..."*

Using hotel room floors and small apartments as his studio and working solely on his G3 laptop, illustrator Nathan Jurevicius has developed a striking and remarkable style. His work mixes cartoons with the imagination and colour of a surrealist painter, and has appeared in publications worldwide for many companies including Sharp, Telstra and Lucas Arts.

During his Design degree in Australia, Nathan was commissioned to illustrate a collection of children's books which were later shortlisted for best Australian Christian series. Since then, he has successfully worked full-time for six years illustrating editorial, advertisements and fiction for children.

So how did Nathan develop his particular style? "I got into the whole scene very young," he explains. "As the son of a colour-blind artist you're surrounded at an early age with interesting imagery. Each morning I'd wake up with this huge, unusually coloured abstract painting above my head. I'm sure this subconsciously influenced my style."

Other artists have also had a significant impact on his work. "Joan Miró is a definite influence. I love the way he combines big bright splats of colour with intricate squiggles — he doesn't take himself too seriously. I try to bring this attitude into my own work. When an article is very formal or technical, it's nice to have a bit of fun with the images. I'm also a big fan of animated cartoons like *Astro Boy* and *Roger Ramjet*, and really early *Phantom* and *Superman* comics (you know, the ones where they look fat!)."

At home, Nathan spends most nights on the couch, drawing up roughs while watching late-night television. "There's something very strange that happens to me between 11pm and 1am. Most of my craziest ideas are inspired by happy-looking people endorsing products that fixed their haemorrhoids, or made their car so shiny it blinded them for weeks."

When approaching the design for a new illustration, Nathan's technique is well-rehearsed. Once the brief and ideas have produced a good rough, it is scanned into *Photoshop* and the brightness and contrast are adjusted so the image is only just traceable. He then saves it as a TIFF and opens it in *Painter* before tracing the pencil rough with the Pen tool until he gets the right result. "All the images are vectors when saved in *Painter*'s native format but I flatten them and bring them back into *Photoshop* to convert them to CMYK," he tells us. "I've used *Illustrator* in the past but prefer *Painter* because of its transparent and feathering effects — now that this can be achieved well in *Illustrator*, it's tempting to change programs..."

During the past year, Nathan has contributed to many online projects, including the Australian Film Commissions Stuffart 2000, May's *Born* magazine and Jinsom. At the moment, he is creating an interactive children's book and Website with an American-based multimedia company, as well as collaborating on an experimental *Flash* project. ca

You can see Nathan's work online at [w] www.antbyte.com.au/nathan/ Contact him by email at [e] nejurk@bigpond.com or [t] 020 7828 4729.

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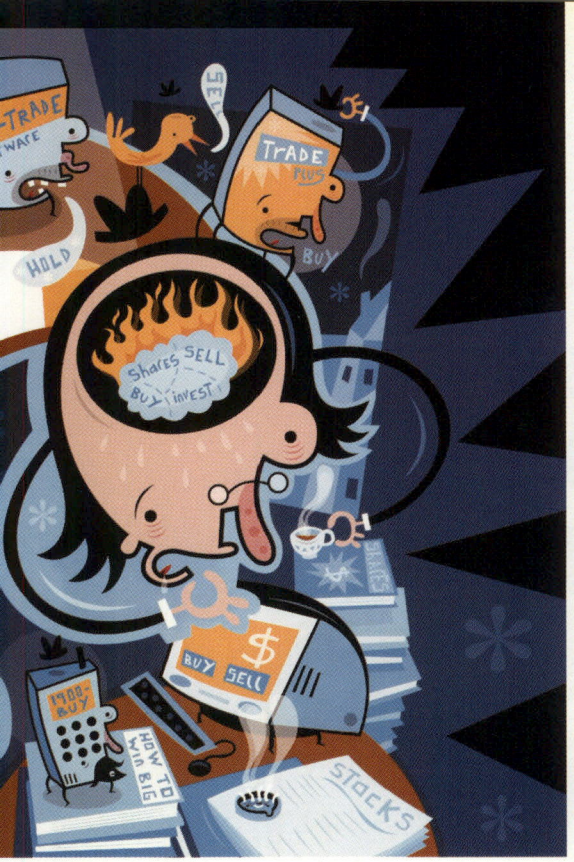

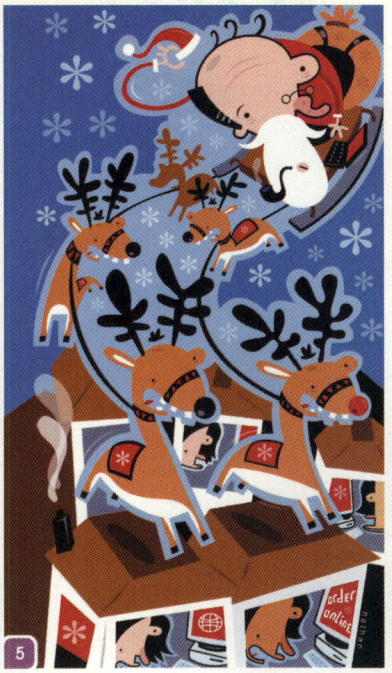

1. "This editorial illustration was for the US magazine, *MacAddict*," Nathan explains. "The article was for a technical column on how to build an MP3 player in *REALbasic*. I modelled the guy's action on my favourite dance move 'The Swish', and the Apple Mac on the computer I wish I had."

2. "This illustration on 'making your superannuation grow' was inspired by the fairy tale, *Jack and the Beanstalk*. The art director loved the concept, but was a little worried that the cloud wouldn't support the giant's weight..."

3. This is the kind of article Nathan loves to illustrate. "Some of my favourite things to add in illustrations are flames, brains and objects that look like characters – this one had it all!"

4. "*Shares* magazine asked me to illustrate a story on people investing in emerging economies. I really liked the final outcome, mainly due to its different perspective and also because it made me want to travel again."

5. This illustration was created for *The Bulletin*. "I ended up liking the characters so much that later I turned it into a Christmas card for my friends," Nathan comments.

6. "The image here was inspired by a recent trip to Central Park in New York. The article was about computer viruses (in particular the 'love virus')."

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the sex issue

FOR ALL PROFESSIONAL WEBSITE DESIGNERS

Making a great website is about keeping abreast of the best ideas. That's why every month, *Cre@teOnline* uncovers the most innovative and imaginative sites on the Web, exploring what makes them special and who put them together. We also talk to the luminaries taking this industry forward, and reveal all you need to know to stay one step ahead of the game.

IN ISSUE FIVE:

HOW TO CREATE WINNING PITCHES

We find out what it takes to make pitches that win accounts. We talk to three of the best design agencies in the business and discover how they present pitches that work. We take an in-depth look at how three different accounts were won and we report on what you can do to improve your own technique.

THE TRICKS IN ONLINE SEX SITES

Online sex sites might look dire but there's plenty they can teach us about good design principles. We take a look at how sex sites get people to cough up cash *before* looking at the site, and we explore how personalisation issues are already taking sex sites into new realms. If you ever needed an excuse to look at porn, this is it.

PLUS: How games developers are taking their wares onto WAP.

Web video and the new *Media Cleaner 5* – we've got designers to offer their views.

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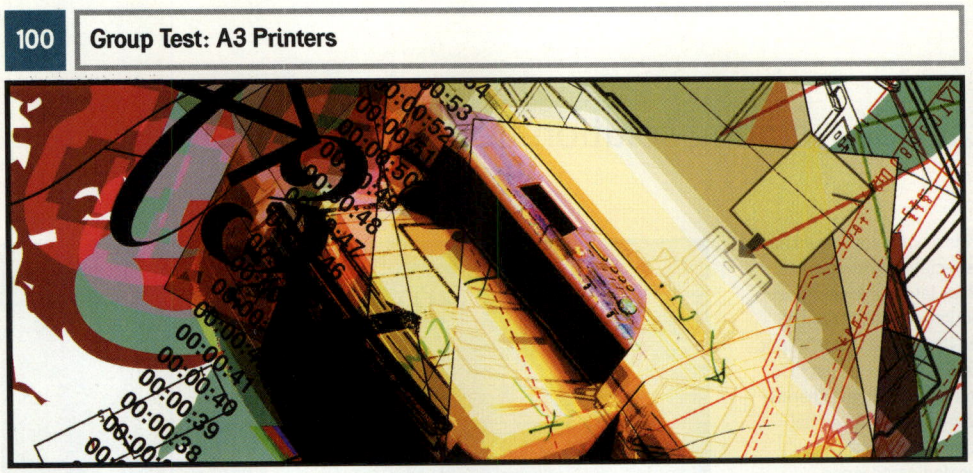
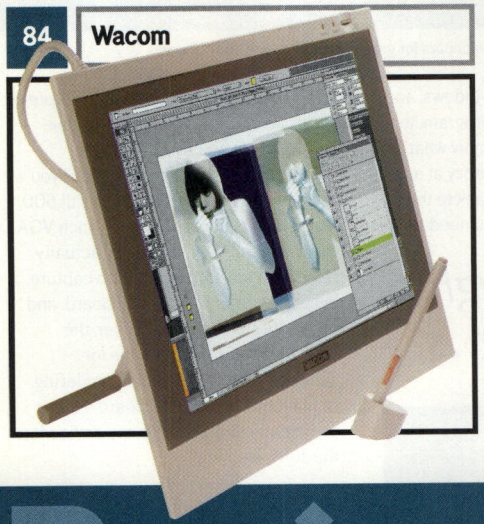


100 Group Test: A3 Printers

80 Purple



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High-end, sophisticated video-editing solution from FAST

84 **Wacom PL-400**
Sketch directly onto the screen with Wacom's latest offering

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The brand new version of *PSP* gets the *Computer Arts* treatment

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Six A3 printers tried and tested. Which is best for you?

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All the best and latest tools

Judging criteria

For a piece of software or hardware to make it into *Computer Arts*' reviews section, it has to reach a certain standard. Truly dire products will be ignored, which is why you'll rarely see one-star ratings. Our reviewers are experts in their own fields. We only review finished code. We assess tools from the viewpoint of the professional designer. Does it do what it is intended to do? Is the interface clean? Is it quick, reliable and useful? And is it good value? ca

Purple

A highly sophisticated digital video-editing solution from FAST Multimedia...

Price
£5875

Company
FAST Multimedia

Telephone
020 8968 0411

Website
www.fastmultimedia.com

Features

- Full system includes PIII 500, 40GB video storage and 17-inch VGA monitor
- Native DV editing
- Fully featured editor
- Flexible titler
- Background rendering
- Film style and insert editing
- Support for external jog shuttle and fader controls
- Output in a range of formats

FAST is a company known for its specialist hardware, but with its latest high-end post-production suite, *Purple*, it has abandoned its traditional tech-spec almost completely, declaring that PCs are now big and tough enough to handle all the processing involved in digital video production without any help from expensive dedicated video boards. There's even a plan to release *Purple.field*, the same fully-featured broadcast edit suite, on a laptop.

Stretch the timeline across two monitors for greater flexibility and ease of use.

Purple isn't just a program icon on an NT desktop – it completely hijacks the desktop, shamelessly overlaying its own NT lookalike. This lets you forget about the operating system altogether, and treat the system as a dedicated edit deck. All the file handling, windows, and control are handled by the program, too, so you never even need to know what's on your PC's hard disk. In theory at any rate. In reality, you can get back to the real NT at a single click if you need to, but it's probably best to treat a *Purple* PC as an edit deck and nothing else.

PCs are big and tough enough to handle all the processing...

Although you buy *Purple* as a complete turnkey system – and if you buy it from FAST, this means a PIII 500, 40GB video storage and a 17-inch VGA monitor – all the clever stuff actually resides in the software. Video capture is handled by a simple IEEE board, and unlike its sister system, Silver, the board contains no hardware for accelerating the processor, rendering, or playback. In fact, the board's there principally as an anti-piracy device for the software.

First off, you need to capture the footage from your DV source: you can do this by recording the source material on the fly, or by making a log, and then letting *Purple* do all the hard work for you.

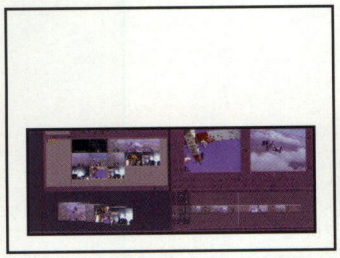
Background rendering

As a result, all the dissolves, effects and transitions you make in *Purple* have to be rendered. There's no hardware to create real-time effects, so each time you add one, the system has to render it out and save it to disk as a video clip. The good news is that *Purple* is very clever at doing this in the background. When you set up a transition or effect, the program automatically starts to

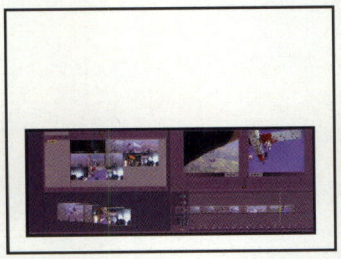
You can examine and cut sound waves in a number of ways, by overwriting or inserting.

A simple edit

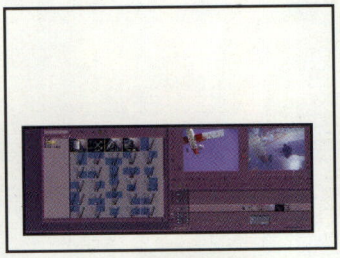
With the footage already captured, *Purple* enables you to go about editing in a number of different and intuitive ways. Here we're putting together a simple sequence with one dissolve to show you how it's done...



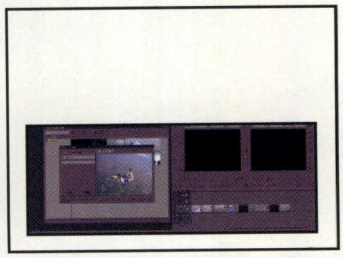
1 Create a storyboard by dragging clips and dropping them on the desktop in order. This is an easy way to get your production in order right from the start. Hit Play to see the clips played in sequence.



2 Drag the clips over to the timeline. Immediately they're placed in the right order, so you can begin to work with them. Now drag to alter the edit points, or use the trimming tools for greater accuracy.



3 Drag in another clip, and place it so that it overlaps the final clip in the sequence. Now switch the project window to show the available transitions, and drop one in between the two clips.



4 The transition will start to render in the background automatically. Now all you have to do is go to the Start menu, select Record to Tape, and you can dump your finished project to a DV player. Easy!

render it. You can still work on the project, editing, moving clips around, and even playing back your scene, and the rendering simply goes on in the background. An on-screen indicator lets you know how far the process has gone, and when your effect is ready.

Obviously, the more complex the operation, the longer it takes to render, so if you set up a lot of effects in one go, you can expect to wait a while before the scene plays back properly. Surprisingly, rendering is quite fast – the time depending largely on the speed of your system, and whether you're doing a lot of work on the project while the background renderer is chugging away. If speed is of the essence, you can add extra hardware to take on some of the processing burden (although, of course, this will bump up the price of your system).

The software, Silver's *FASTstudio 2.5*, is most comfortable on two monitors (or three if you include the video output monitor). You can use one, just, but things are going to be a little cramped if you do. When set up for optimum performance, the left-hand screen contains your footage browser, character generator and capture utility, while its right-hand counterpart displays various viewing screens and the vital timeline. Everything looks neat and is laid out simply as standard, but you can customise the layout to your

Extras

You can expand *Purple* as your requirements change by adding various options to the basic package...

There are four options for expanding your set-up. Purple.In.Time is a processing board containing six tri-media processors. These take the heat off your PC's processor and reduce the time it takes to render effects and transitions.

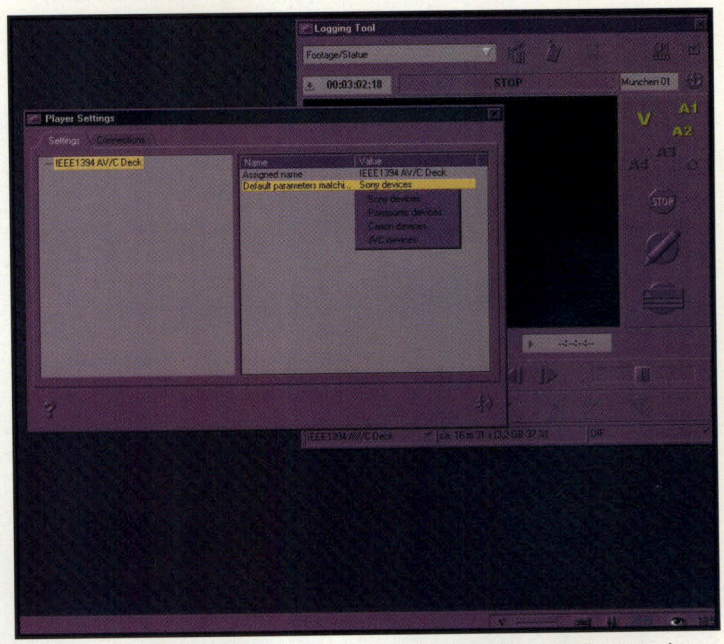
Secondly, there's Purple.Control. This is a configurable jog shuttle control which you can use to control playback on the timeline, replace various keyboard and icon buttons, and operate your VCR or camera. This option makes *Purple* feel more familiar to many editors used to the old linear suites.

Purple.FX adds to the effects tools, enabling you to work in 3D space, create custom transitions and refine keying tools. Purple.FX also adds green-screen to the keying options.

Last but not least is Purple.XL, which gives you full-screen effects editors, as well as the ability to record voice-overs while you watch the production playing in the timeline.

Purple is a complete system, but you can buy extras such as Purple.Control – the jog-shuttle device shown here.

Surprisingly, rendering is quite fast – depending on your system



Purple can control whatever digital video devices you've got plugged into it, enabling you to play back or record directly from the desktop as easily as double-clicking.

A typical FAST *Purple* layout on a two-monitor set-up: footage browser, character generator and capture utility (left screen); viewing screens and timeline (right screen).

The built-in character generator is excellent – you can create a number of pre-set styles...

heart's content if you prefer. You can also create and alter keyboard shortcuts quickly and easily.

Missing links

One thing absent from the package is any kind of menu bar. You adjust to this fairly quickly, but it's disconcerting at first, and seems rather pointless considering FAST only claws back a few millimetres of space by getting rid of it. That said, it's surprising how few icons clutter the display. There's no icon for saving a project, for instance, because your project is saved automatically after every operation. There's no icon for previewing work, either, because all the rendering is done automatically in the background.

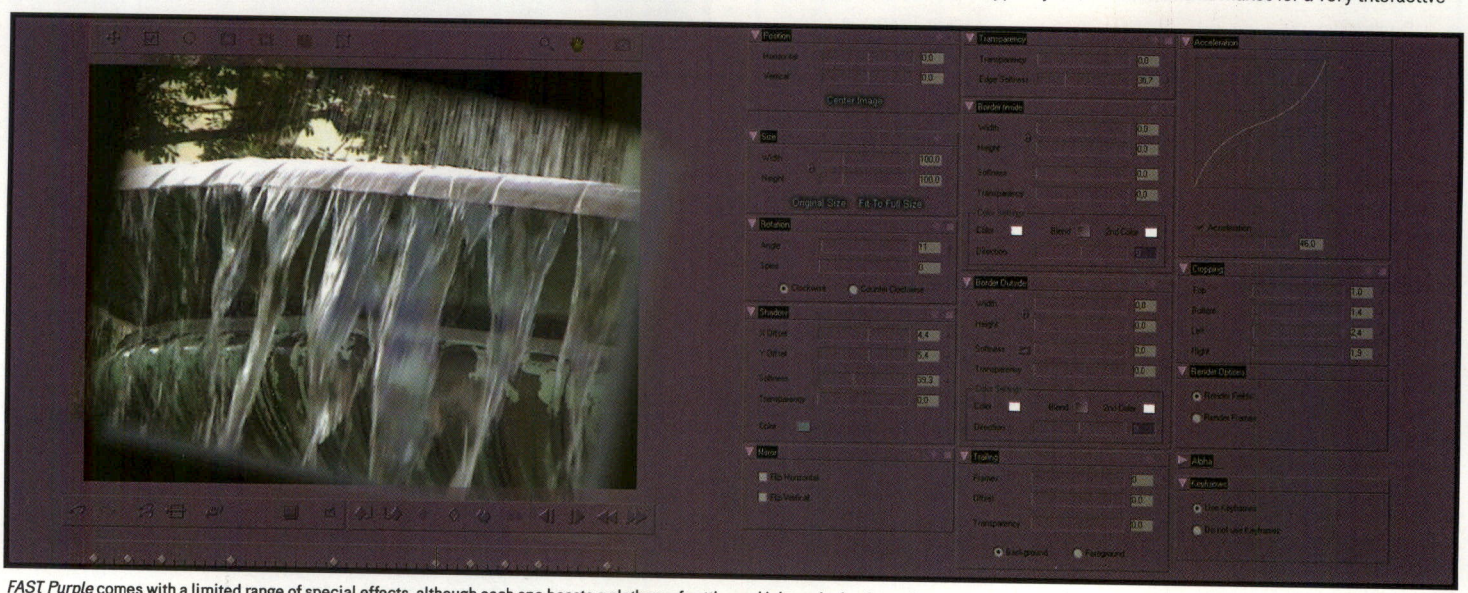
Effects, however, are few and far between. If you want more manipulating power, you'll need to buy an add-on (see panel on page 85), although the basic package is designed for standard editing jobs – chroma and luma-key, as well as bluescreen keying. You can use still mattes to mask off areas of the screen, too, but there's surprisingly no support for travelling mattes, so you can't do all that much compositing.

You can, however, export a selected portion of the timeline straight to any effects program, work on it there, then bring it back in seamlessly, so if you use *combustion*, *Commotion* or *After Effects* you're well catered for.

Having said that, the built-in character generator is excellent – you can create text in a number of pre-set styles, or you can design your own by adjusting colours, shadows, type styles and so on. While you're working on a title, it's overlaid on the current frame on your output monitor which is also helpful. You can then set your text to scroll in a variety of interesting ways.

Sounds good

Sound filters are good in parts, but could certainly be expanded. There's a graphic equaliser that you can adjust in almost real-time. You can also do real-time mixing by playing through a portion of the timeline and dragging sliders up and down. By doing this, you create keyframes on the timeline which you can then edit later on. You can even plug a mixer board into the MIDI port, and use this to control the faders by hand. This makes for a very interactive

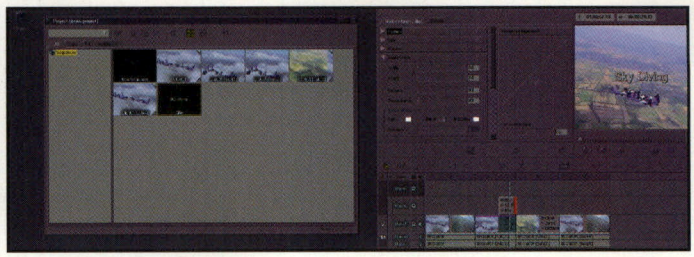


FAST Purple comes with a limited range of special effects, although each one boasts a plethora of settings which can be keyframed.

Titling your production

Purple's title generator is simple to operate, but flexible with it. Here we're building a simple title screen...

1 Bring up the *FAST Studio XL* character generator. This enables you to type in text, stretch it to size and alter its colour and style to suit. Now give the text a suitable dropshadow. You can easily adjust the size and colour for the shadow, and move it around your text. Looking on the video monitor, you can see what the text looks like overlaid.



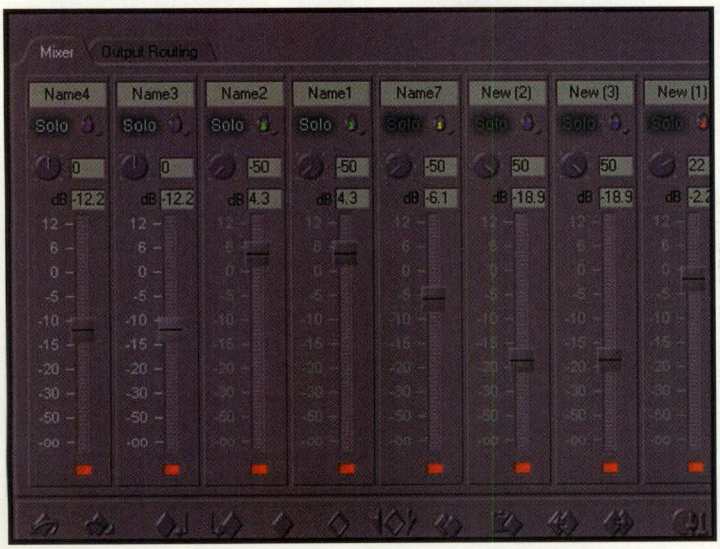
2 Save the caption to disk and it appears in your Footage window. You can select and use this in the same way as any other footage clip. Drag the title to the timeline. If you place it over another video clip, it appears as an overlay. The rendering is now done automatically in the background, and in a few seconds your title is ready to view.

approach to sound. Unfortunately, there's no parametric equaliser or nose reduction tools – so you have to export audio files to another package to handle any sound problems or effects.

Thankfully, basic edits are well-handled. You can capture from any DV source, either on the fly or by marking in and out points. Either way, if a clip is deleted from disk, you can recapture it at a click of the mouse. This means you can easily work with multiple projects, keeping the project files on disk and simply recapturing footage as and when required. Once the clips are in the project browser, you can play them back on the video monitor, or in the window, where you can see them along with all your other shots. Drag clips from here to the timeline, or onto a Playback window, where you can mark in and out points, or drop a series of clips straight on the desktop, arrange them in order, and then click-play – they'll play out instantly in order.

In other words, if you're working in news or sport, and the speed you get your item out is more critical than the accuracy of the editing, you can have a finished package cut together in just slightly longer than it takes to play the rushes through. A neat feature.

Avid deserves to be one of the top edit systems. However, so does FAST's Purple...



You can use *Purple*'s audio mixer to make real-time adjustments to the sound while a clip is playing.

Pressing problems

Back on the timeline, there are a number of tools to speed up the post-production process. You can work in Film Style mode – where placing a clip between two shots shuffles the others up to make room for it, or Overwrite mode, where the new clip is laid over the old scene. A number of helpful trimming tools are also available. You can slide an edit point back and forth without affecting the length of your production, for instance, or view the frame before and after any edit as you trim. You can also zoom into the Monitor window to check out details – this doesn't affect the clip itself, but it gives you a better look at the footage.

Output is pretty flexible. You can record your project to tape right from the timeline, or if it needs to be in another format, output it as, say, a *QuickTime* file in .avi format. In the next software revision, there are plans to link up with the technology found in *Media Cleaner Pro*, so it should be possible to use the excellent compression tools and output to MPEG1 and MPEG2.

While compressing, a dropdown window shows you how far through your project the process has got by displaying the frame it's working on. Unfortunately, it displays the image at the quality of the original, not the compressed file, so you can't see potential compression problems.

Industry standard

If you're intending to work more with your edit in Avid, or do a conform on a linear system (although why you'd want to do either of those things is a bit of a mystery), you can also output edl ('edit decision list' – a list of the cut points and clips used in the production) files.

You can also output a much more sophisticated OMFL format file. OMFL creates a low-resolution version of the entire project, along with an edl. You can then import this into another system like Avid, where you can carry on working on the edit without re-digitising everything from scratch. This is useful if you're editing on a range of systems, or have to hand your edits around as they're being done.

Overall, *Purple* is designed (along with its hardware-based sister, Silver, and the upcoming Blue) to take on the mighty Avid. What it has to overcome here, apart from Avid's features and power, is TV industry snobbery, which has kept it as the standard despite strong competition. Avid clearly deserves to be one of the top edit systems. However, so does *Purple*, and at just £5000 for a complete system, potential customers should look at both before making their choice. ca

Verdict

Speed	
Value for money	
Ease of use	
Documentation	

For: *Flexible and well laid out • Very strong on basic editing • Intelligent rendering system*

Against: *Limited effects and sound filters • No analogue capture • No real-time rendering*

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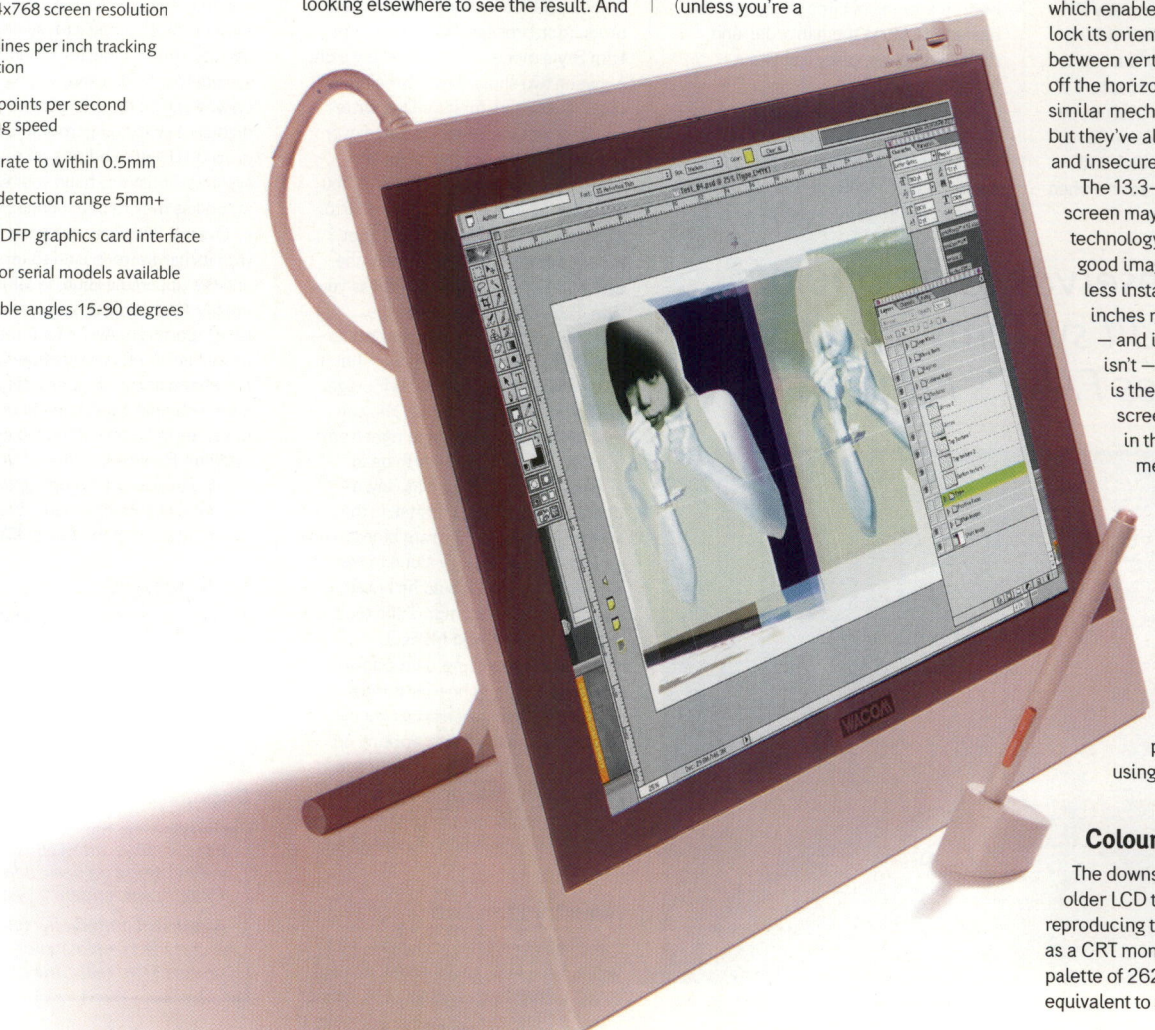
- USB or serial models available
- Useable angles 15-90 degrees

Computers truly are an empowering tool. They're forgiving, because you can simply undo mistakes. They're precise, once you learn how to use them. And they're versatile, because even the least capable user can create professional-looking work.

However, in the great rush to go digital, it's the conventional artists who've suffered the most in terms of interface. Smart as they are, computers have singularly failed to provide that immediate connection between pen and paper, distancing artists from their work and forcing them to draw almost by remote. Sure, graphics tablets enable designers to use a pen, but it feels so unnatural to draw in one place while looking elsewhere to see the result. And although light pens and touch screens provide a more direct link between action and effect, they can be imprecise and tiring on the arm.

Clearly, the time is right for a new technology, and Wacom is here to prove it with the PL-400, an intelligently designed touchscreen that's so much more than that. Conventional touch screens come in the form of monitor overlays or dedicated monitors. Some of them impair visibility, and all of them are designed to be used vertically, so fatigue is a big issue. Moreover, even if you have the requisite shoulder stamina, drawing on a vertical surface just doesn't feel right. It's not how you learned to do it growing up, it's not how you do it in your daily life (unless you're a school teacher or a graffiti artist), and it certainly isn't anyone's first choice in the comfort stakes.



Comfort and accuracy

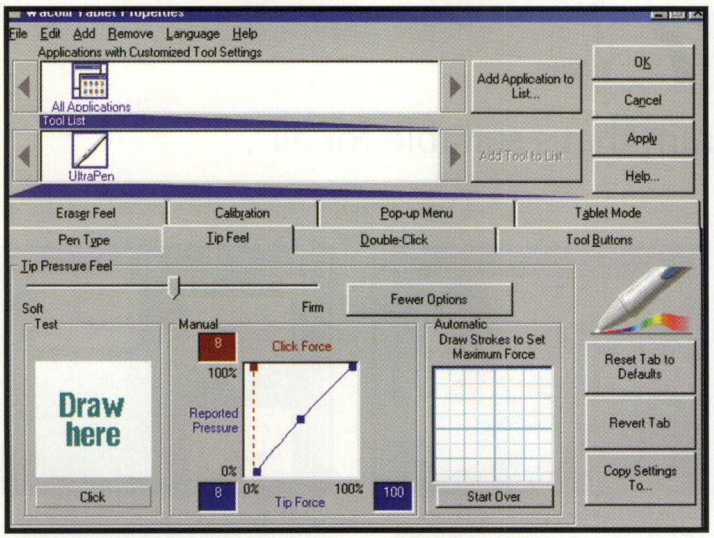
Wacom has overcome this by combining touch-screen technology with an LCD panel. LCD panels use solid-state components rather than a cathode ray tube (CRT) to generate a picture, and consequently they're only a couple of inches – rather than feet – deep. This results in a screen which is much more manageable in terms of size and weight (just 2.9kg), so it's just as effective on your lap as on the desktop.

The device also incorporates a clever adjustable base support mechanism, which enables you to adjust and then lock its orientation in any position between vertical and about 15 degrees off the horizontal. We've encountered similar mechanisms on other kit before, but they've always been a bit wobbly and insecure. This one feels rock-solid.

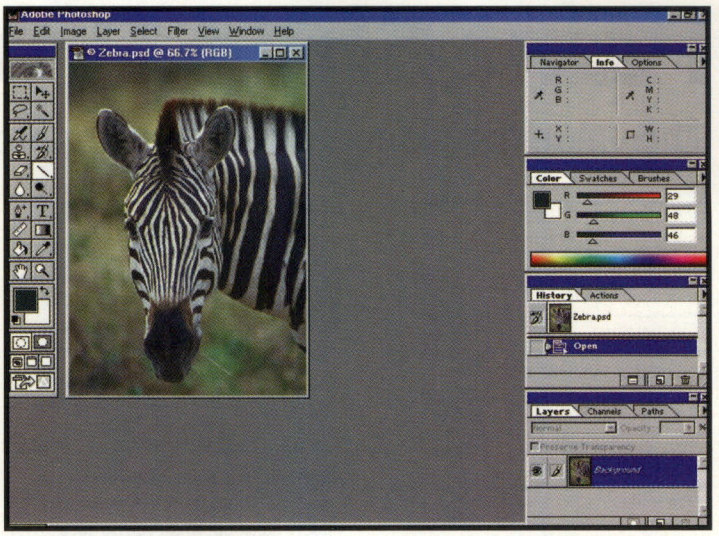
The 13.3-inch TFT active matrix screen may not be the latest in LCD technology, but it still produces a good image that responds more or less instantly to your actions. 13.3 inches might not seem a lot either – and in CRT monitor terms, it isn't – but the beauty of LCDs is the precision with which the screen elements are mounted in the screen matrix. This means that the screen is equivalent to a 15 or even a 17-inch conventional monitor. (Incidentally, because there are no electrons whizzing about inside, the PL-400 emits virtually no UHF or EM radiation, so you don't need to wear lead-lined underpants or protective goggles when using it at close range.)

Colour limitations

The downside, though, is that such older LCD technology isn't capable of reproducing the same range of colours as a CRT monitor. This model has a palette of 262,144 colours (almost equivalent to an 18-bit palette), while



This latest from Wacom comes with system software which enables you to adjust the touchscreen's button functions, as well as sensitivity and response parameters.



The PL-400 provides hitherto unheard of interaction between you and your images. Even better, it works with any graphics program – including, naturally, the number one pro choice, *Photoshop*.

the top-of-the-line model (the PL-500) has a 15-inch screen and is capable of displaying a 24-bit palette. Another limitation is the fact that there's a much more intimate relationship between screen size and display resolution. This model has a panel resolution of 1023x768. You can force it into lower resolutions, but the image quality noticeably degrades.

We expected the detection resolution to be relatively coarse and insensitive, especially after seeing graphics tablets that have a resolution of 1000dpi. However, the LP-400 boasts a resolution of 508 lines per inch, and the only limiting factor appears to be the size of the paper on which you draw. By using a large paper size, a 10-pixel brush makes a finer impression than on smaller paper.

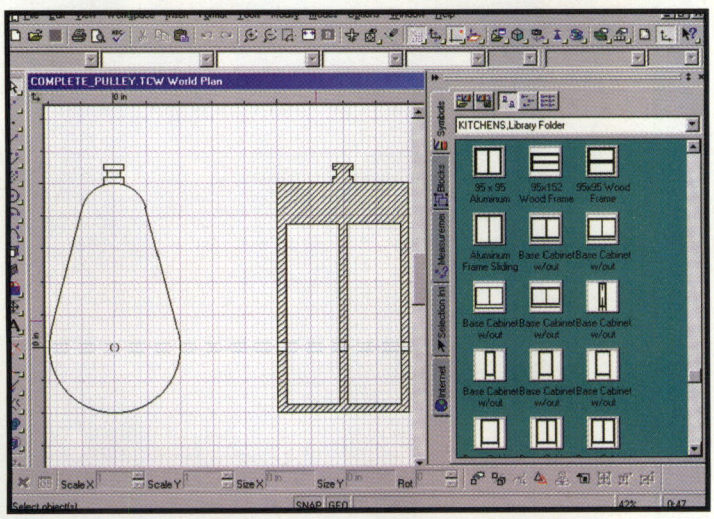
The PL-400 includes a standard Wacom non-tilt sensitive tablet stylus, with a pressure-sensitive tip, a dual button on the shaft and an eraser on the base. The nylon nib is about the size of a fine ballpoint pen equivalent. The screen appears to be made of plastic, too, although it's a much heavier grade than ordinary LCDs, which don't even like to be touched. Nevertheless, we did wonder how long the screen would last if you're constantly rubbing against it with a piece of tough nylon.

Graphic demonstration

Of course, you can actually use the pen to replace the mouse in all your applications, but it only really comes into its own with graphics applications, where it provides a level of interaction that's unheard of. At first, it feels a little odd, particularly as there is a slight offset between nib and screen cursor, caused by the thickness of the screen. Also, the pen itself often seems to obscure things you really need to see. However, niggles like these are soon forgotten once you warm to the device's incredible flexibility.

It's so logical, so immediate, so responsive and so pleasant to use – it's just a pity it's so damned expensive. However, for the serious digital artist or the computer user who places style and convenience ahead of a bank balance, the Wacom PL-400 really is a dream come true. In such a rapidly changing field it's risky making predictions, but we can say with absolute confidence that Wacom's tablet marks a giant leap forward in computer interactivity. ca

So immediate, so responsive and so pleasant to use...



Because you can use the stylus as a mouse, the PL-400 massively increases your productivity and work rate, whether you're creating in *Photoshop* or simply shifting files around your desktop.

Get connected

The previous incarnation of the PL-400 only worked with its own graphics card, which was a pain if you had a powerful 3D accelerated card for modelling. This updated version comes with a DFP/DVI converter box, so you can use it with any graphics card that has a digital output. Hardly any do, of course, but still...

We connected our review device to an ATI Rage Pro. Based on the Fury chipset, the ATI offers an acceptable compromise between powerful 3D acceleration and affordability. Find out more by contacting ATI on **[t]** 01628 477 788 or visiting **[w]** www.ati.com

Incidentally, the original PL-400 only boasted a serial port. Now, thanks to the converter, you can also hook it up via USB, which is much more convenient. If you're one of the those who purchased the original PL-400, you can buy the converter box separately for just £199.

Verdict

Design	
Value for money	
Ease of use	
Documentation	

For: *Enables direct interaction with the screen • Can also be used as a regular monitor • Ergonomic and responsive*

Against: *Screen surface will inevitably wear out • Slight offset between pen nib and screen cursor • Expensive*

Paint Shop Pro 7

PC

The value for money, photo-editing program that's suitable for all...

Price

£94 boxed
$99 download from JASC

Company

Digital Workshop

Telephone

01295 258 335

Website

www.jasc.com

Features

- Photo-retouching/2D art package
- Vector layers
- Vector gradients
- New auto-retouching tools
- *Animation Shop 3* included
- Built-in Web page creation tools

System

PC: Pentium • Win 9x NT4/2000
• 32MB RAM • 75MB disk
• 800x600/256-bit display

30-day demo

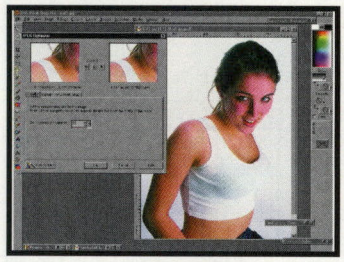
Before you look at the features, tools and filters available in *Paint Shop Pro 7*, just check out the price... This is a feature-rich and powerful photo-editing, paint and vector art program, yet it costs under £100, which at first glance makes it a massive bargain.

Paint Shop Pro has long been a firm favourite with fiscally-challenged desktop artists, business and home users alike, but when you do get a chance to scan the spec sheet, you swill see that most of the tools found in pro-packages such as *Photoshop* are included here, and then some.

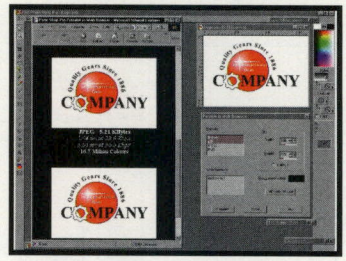
Familiar ground

This new version keeps the familiar interface of the previous version, but adds a few tweaks and enhancements. A new Overview palette makes navigating while zoomed into a large image easier. When open, the Overview palette displays a large thumbnail of the image, with a rectangle representing the currently enlarged portion. You can now drag the rectangle around to pan the main view without changing to the Arrow tool, which is useful when painting fine details.

All the floating palettes have a unique unrolling feature, whereby they remain collapsed to their title bars until your mouse rolls over them. The full palette then unfurls so you can access the controls within. You can also lock palettes if you want them to remain open, too, which is handy.



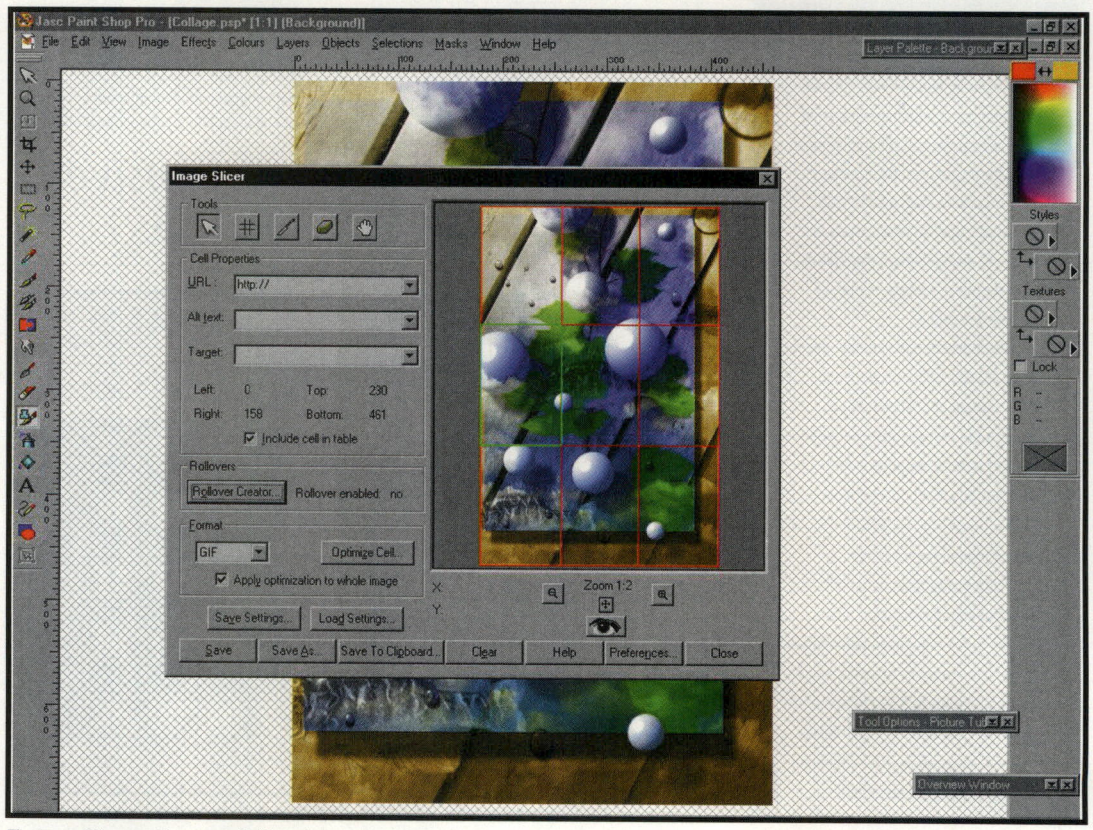
Optimise images using the JPEG, GIF and PNG optimiser Export dialogs. These provide interactive feedback of the results.



A neat feature is the Preview In Web Browser. This enables you to view the optimisations in up to three Web browsers simultaneously.

Red eyes

In addition to all the enhancements, *Paint Shop Pro 7* also adds many new features. Some useful tools are in the field of photo-retouching and are aimed



The Image Slicer enables you to divide up images into Slices for your Web pages. Each slice can be set up with a Rollover tool and saved as an HTML file.

at making common photographic retouching tasks much easier – and, in some cases, automatic.

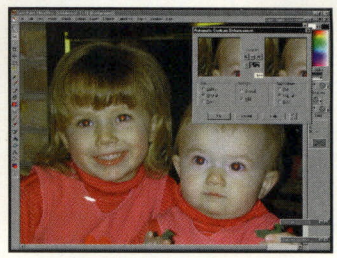
A prime example is the Red Eye Removal tool. This works not by correcting the colour of the illuminated retina, but by simply overlaying a new synthetic iris and pupil on the image. The feature has its own dialog with large preview windows. There are a host of features which enable the effect to blend with the original, and there's even a highlight glint added to retain sparkle.

Photo-retouching

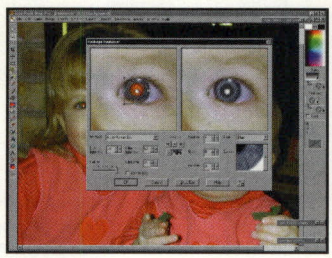
Paint Shop Pro 7 makes short work of improving scanned photos...

1 Here's an image than needs a bit of enhancing. It's dark, lacking in contrast, and you can see that the subjects are suffering from severe red eye.

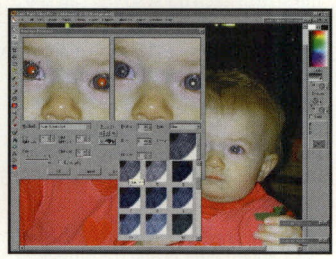
2 First things first. We'll use the Automatic Colour Balance tool to remove the colour cast in the image. It's not 100 per cent automatic – you have to specify the amount of cast removal and the neutral colour temperature yourself.



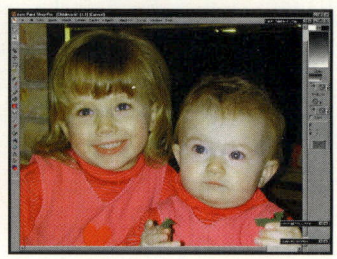
3 Next, the Contrast Enhancer helps give the image a little more snap. The interface for this tool is simple to use, with three toggles for Bias, Strength and Appearance. Tweak as you see fit.



4 To fix the red eyes, you can use the new Red Eye Removal feature. Simply drag the circular marquee around each eye in the left side of the Preview window. *Paint Shop Pro* then places a synthetic iris and pupil over the red one.



5 Now you need to match the iris colour with the original. This is made easier with a pop-up menu containing the common shades of eye colours. Animal eyes are also catered for.



6 You can fix as many red eyes as necessary in one go, and preview the results in the main image. The filter also intelligently places the highlight caused by the flash on the eye in the correct location. Here's the finished image, colour corrected and with red eyes removed.

Vector tools

Other new retouching tools include Fine Scratch Removal, automatic adjustment of hue, saturation, colour balance and brightness, and automatic enhancement of video and scanned images. A useful feature for images downloaded from the Web is the JPEG Artifact Removal tool, which does an excellent job of removing the blocky noise you get in contrasty areas of highly compressed images. You do get a fine noise over the image, but this is often far less objectionable than the JPEG noise.

Paint Shop Pro boasted vector graphic tools before, but these new enhanced variants now support gradients, textures and patterns. There's a large library of pre-set vector objects that you can place in your document. These include numerous Web page buttons, 3D objects and 2D icons. When placed they remain as vectors in a new vector layer. A button may consist of several vector components (fill, outline, drop shadow, etc), each of which you can edit at will through their vector Properties dialog box. This makes it easy to modify, for example, just the texture of a Web button, without altering any of the other components.

Positioning objects precisely is now much easier with snappable grids and guides. However, we found that snapping to guides didn't always work as expected, especially when trying to snap an object with many overlapping components. For aligning simple shapes and text, however, it's ideal.

Most of the tools found in pro-packages like Photoshop are included here, and then some

Vector support has been improved with vector gradients, as seen in this colourful image. Text shapes and lines can all utilise gradients, as well as textures and patterned fills.

Picture Tubes enable you to 'paint' using a flow of images. A library full of presets – flames, fish, lightning, for example – is available if you're looking for quick results.

Freebies

When you buy *Paint Shop Pro*, you also get *Animation Shop 3* for free. This is a program geared towards producing animated graphics and effects using a simple interface, and is definitely a useful application for creating simple animated Web graphics or even titles and graphics for your videos.

You can add up to 100 layers to a *Paint Shop Pro* document, with three types supported: Raster, Vector and Adjustment. Adjustment layers work in the same way as *Photoshop's* and are a powerful feature. Where *Paint Shop Pro* falls down is in its overall speed and optimisation. Adding lots of adjustment layers slows things down when you want to edit them, and it seems to take ages for their dialogs to open. Some of the previews in Filter and Adjustment dialogs also seem to be overly sluggish, even when you are previewing a magnified portion of the image.

It's very difficult to criticise a product that does so much for so little, but remember that it isn't all sweetness and light under the shiny bonnet. Despite this, *Paint Shop Pro 7* is undeniably a capable package, with this latest upgrade offering enough new elements to please most art pundits. ca

Verdict

Speed	
Value for money	
Ease of use	
Documentation	

For: *Cheap • Large feature-set • Easy to use*

Against: *Sluggish with larger documents and many layers • Snap to guides is a bit flaky*

Vegas Video

A complete video-editing suite with powerful audio capabilities...

Price
£599

Company
SCV London

Telephone
020 7923 1892

Website
www.sonicfoundry.com

Features
- Video capture
- Video editing
- Audio and video filters and effects
- Output in a variety of formats
- Semi-real-time playback

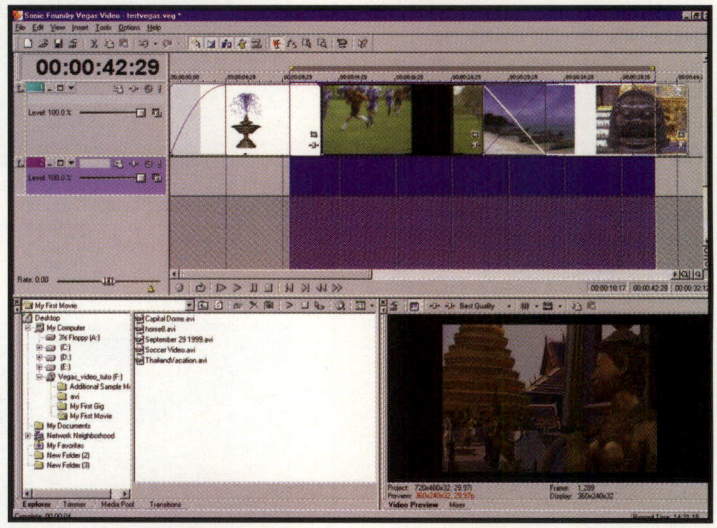
Vegas Video has been around in the States for some time, but it is only now being launched in Europe. It's a competitor for Adobe *Premiere*, but approaches video editing in a slightly different way.

The timeline is certainly well put together. You can drag through it, zoom in and out, add or delete as many audio or video tracks as required, and trim shots with ease. You can even change the size of each track so you can see the contents of a shot more easily.

There's also a useful scrub control for finding specific points in your project, and a speed control so you can speed up or slow down playback. This is particularly useful when attempting to place shots precisely or sync audio and video more effectively.

One big bonus is that you can play back added effects and transitions immediately; there's no rendering. This means you can see what you're doing while you're doing it. Unfortunately, it also means that the more effects you use, the lower the frame-rate and the poorer the image quality on playback. If you want to preview effects in full motion, you need to pre-render them.

Adding a dissolve is about as easy as it could be – just drag a clip so that it overlaps another. *Vegas* automatically crossfades the video and audio, so there's no messing about with transitions.



You can customise *Vegas Video*'s interface to your heart's content. Dockable windows enable you to have only what you need on screen at any one time. Useful when you've only got one monitor.

If you want more complex effects, you can pick from a number of crossfade types or use a different wipe.

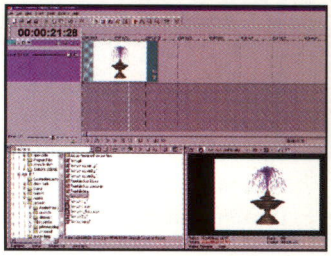
Vegas is also a powerful audio editor. Using technology from the already popular *Vegas Audio* mixing package, it's easy to create complex soundtracks. Mix and pan controls enable you to work out the perfect balance for your project, and the ability to record soundtracks while a project is playing is useful for musicians and voice-over artists alike. In addition, there's a good range of audio filters and effects, including noise gates and chorus effects. These can be keyframed for animated effects.

Overall, *Vegas Video* offers a better approach to audio than *Premiere*, and its real-time FX are certainly useful. The video effects and transitions are less varied than its competitor's, but they're based on *Direct X*, so many more should become available soon.

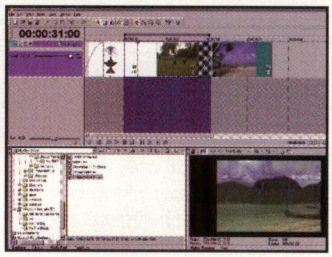
Still, for timeline editing *Premiere* has the edge. *Vegas* sports useful tools, but it's harder to re-edit a sequence inserting new shots in the middle. CA

A simple sequence

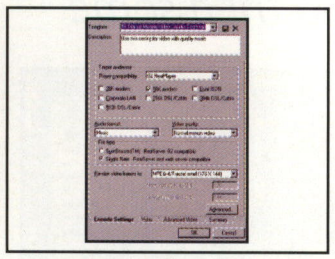
Creating a brief fade-in, cut, mix, then fade-out movie, ready for rendering in *Vegas*...



1 Double-clicking on the first shot places it on the timeline. Now we drag to trim it to size, and pull the opacity fader from the top-left of the clip to create a suitable fade-in.



2 To drop the second two clips in, we double-click, then grab and slide the last clip back so that it overlaps the previous one. A crossfade of audio and video is automatically created.



3 Finally, it's time to render the finished movie so it's suitable for, say, sending over the Net. Pick your rendering format and settings, and then let *Vegas* get on with the rendering work.

Verdict

Speed	
Value for money	
Ease of use	
Documentation	

For: *Good basic editing • Lots of audio tools • Instant playback for effects and transitions*

Against: *Not many video filters as standard • Basic cuts editing could be simpler • Workspace can become cluttered*

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Behind every good artist...

Title: Old Fellas
Artist: Robert@trebledee.com

computercreative.com
3D & Video | Web & Comms | Imaging & Illustration | Business & Leisure

Photosuite 4 – Platinum

MGI's budget image-editor returns with a host of Web-orientated features...

Price
£50

Company
MGI

Telephone
0800 973 830

Website
www.mgisoft.com

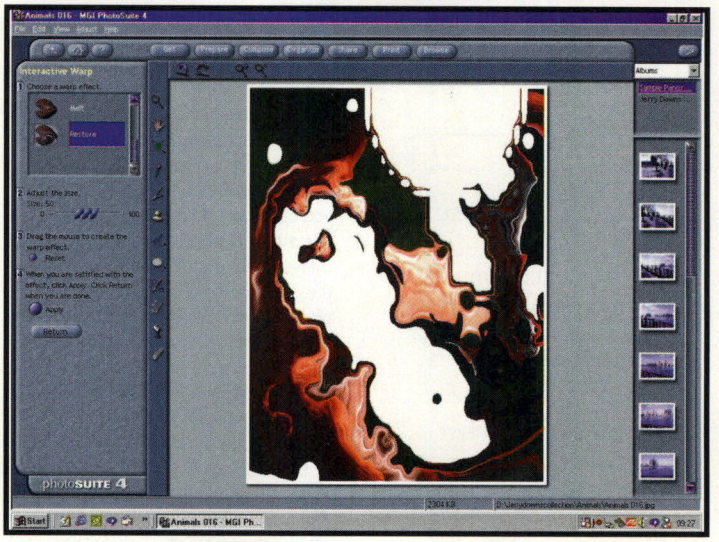
Features
- Image-editing toolset
- Wizard-based interface
- Pre-determined project templates
- Photo album
- Slide show
- Email image facility
- Print multiple images
- Web-orientated features

System
PC: 166MHz Pentium • 32MB RAM • IE5 • 100MB HD

Usually bundled with PCs, scanners and digital cameras, MGI *Photosuite* has built up a reputation over the years for being an adequate image-editing solution, aimed mainly at the hobbyist and home digital camera user. Version 4 builds on this reputation, providing a range of new Web features as well as some enhancements to the toolset.

Photosuite 4 is divided into six rooms immediately accessible from the startup screen. The Get room is simply for bringing your images into *Photosuite*, be it from a digital camera, scanner, the Internet or from your computer's hard disk. Once the image is in, the application jumps to the Prepare room. Here you are presented with menus enabling you to enhance your photos in many different ways. But unfortunately *Photosuite* is not quite as intuitive as you might hope.

In a wizard-based workflow, the app takes you through many a clunky dialog in order to achieve the desired effect. Take the Touchup tool. On clicking on the Touchup button, another menu appears, giving you the opportunity to do such things as Remove Red Eye, Remove Wrinkles, as well as other more conventional adjustments. On activating any one of these tools, a numbered list appears advising you what to do, which is great for beginners, but for those of us with a little more creative knowledge, it gives the distinct feeling that you never have any real control.



***Photosuite 4* has a feature similar to *Photoshop 6*'s Liquify command. Just grab the pixels and pull.**

The Compose room enables you to bring in your enhanced images and create a composition, using layers (called Object Stacks), dropshadows and bevels. Version 4 also includes opacity settings, adding to the app's now improved compositing tools.

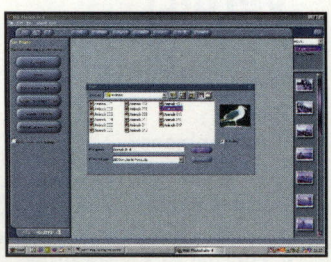
The Organise area enables you to arrange your photos into galleries and add sound clips in the form of avi, wav or MP3 files.

Your masterpieces can finally be emailed and automatically uploaded to **[w]** www.gatherround.com by using the Share room. Websites and animated GIFs can also be created here. Room 6 is named Print and includes a nifty feature which enables you to print multiple images, while the final room is called Browse, largely because you can access Web pages from directly within.

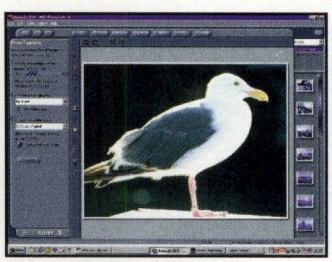
While it does offer some intelligent new features, *Photosuite 4* is an image-editor for those working on a budget, and the limitations show. **ca**

PhotoTapestry

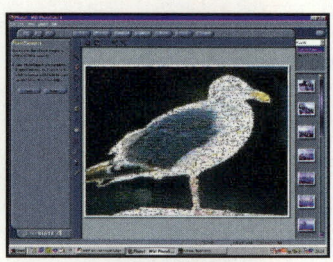
This new feature is a quick way of making an image composed of thumbnails...



1 Introduced in version 3, the now enhanced PhotoTapestry feature enables you to create a photo-tapestry in seconds. Start by opening an image, then going to Prepare and clicking on the PhotoTapestry button.



2 Next, choose the number of tiles you wish to make up the PhotoTapestry. Note that a higher number of tiles will produce a smoother, more realistic image. *Photosuite* tells you what the output file size will be, and there are also options for changing the final image size.



3 Now hit Create, wait a while and voila – a photo-tapestry worthy of Athena! And, if you don't like your image you have the chance to undo the procedure and go back and tweak some settings. If you're happy, click Return to go back to Prepare mode.

Verdict

Speed
Value for money
Ease of use
Documentation

For: *Good selection tools • Handy panoramic features • Create animated GIFs easily*

Against: *Clunky interface • Unintuitive to use • Wasted Web-orientated tools*

buZZ.Professional 1.0

PC Mac

Take the pain out of painterly effects with *buZZ.Professional*...

Price
£80

Company
Segmentis

Telephone
01223 701 701

Website
www.segmentis.com

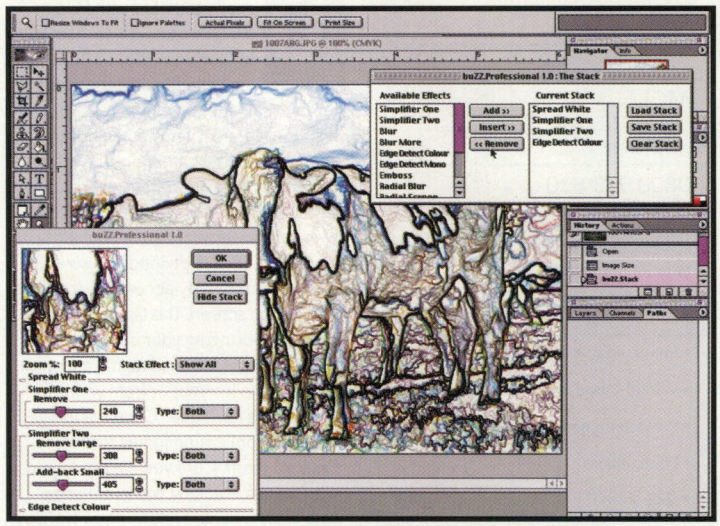
Features
- Creates artistic effects in minutes
- Intuitive Stack dialog
- Works with most image-editors
- 13 effects filters
- Unique simplifying tools

Compatible with most major graphics apps, including *Photoshop*, *Paint Shop Pro* and *Photopaint*, the *buZZ.Professional* set of plug-ins from Segmentis offers a quick and easy way to simplify your images.

Offering 13 plug-ins, most of which you can find in *Photoshop* itself, it's certainly not the depth or range of image filters in *buZZ* that will attract the dedicated digital designer or photographer. What will delight, though, is the intuitive way *buZZ* enables you to work with such effects. On opening up a filter, you're presented with two dialogs: a Preview pane and another more intriguing box entitled the 'Stack'.

In the Stack, you can literally stack image filters on top of each other, creating various levels and layers of effects. This is handy but nothing new. However, within the Stack you have the ability to re-order, add, remove and generally fiddle around with combinations of effects until you achieve the required result.

As you add and remove filters from the Stack, the Preview pane updates, adding and removing the various parameters for each effect. This is *buZZ*'s core feature, and enables you to apply a variety of filters while at the same time not committing to any given result. Another great feature of the Stack is that you can save your stacks for later or collaborative use. Sadly, you can't use any of *Photoshop*'s (or any other compatible app's) native filters, which means you're lumbered with *buZZ*'s various effects such as Blur, Emboss and Edge Detect.



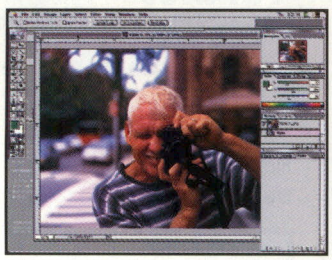
At the heart of the plug-in lies The Stack. Here, you can add, remove and re-order effects.

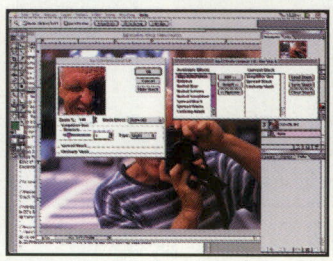
One effect included that you won't find in the *Photoshop* Filters menu is Simplifier. This enables you to remove detail, without having to use a blurring or blending filter. It's handy, but tends to produce images that look a little too similar, even if the parameters are tweaked to the full. Radial Simplifier functions in much the same way, and works best when you need to bring a foreground object into focus without completely blurring the background. This can produce decent results and works well, although there are no parameters to adjust.

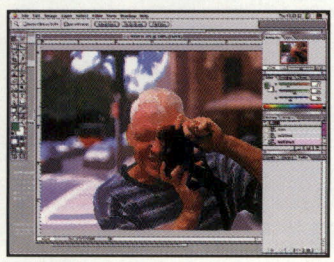
For those lacking the time and effort to create original paintings from digital photographs, *buZZ.Professional 1.0* may be just what the frustrated artist ordered. But while it's powerful enough to satisfy any budding digital Van Goghs, *buZZ* may prove a little too shallow for more serious designers. ca

Stack it up!

buZZ's Stack system makes it possible to combine and re-order different effects at will...


1 Here's a snap, freshly opened in *Photoshop*. We want to combine several different effects to create a painted look. Locate *buZZ.Professional* from the Filters menu and then open up *buZZ*.stack.


2 Here's the Stack up and running. We've added a Simplifier, a Spread Black effect and an Unsharp Mask. Notice how the Preview pane updates as we add or take away effects.


3 Because the Stack remembers the last used settings, we can go back and alter the current effects or add some new ones. The effect we've just created can also be saved for later use or distribution.

Verdict

Speed	
Value for money	
Ease of use	
Documentation	

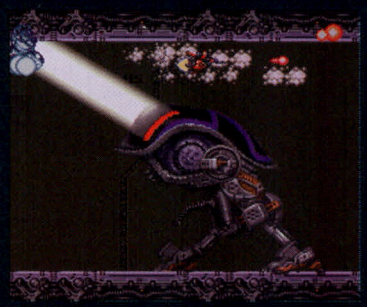
For: *The Stack is easy to use • Clean interface • Removes detail without loss of focus*

Against: *Rather limited for creative professionals • You can't use native Photoshop filters • Can produce rather dated-looking images*

Videogaming has changed.

Space Invaders (arcade, 1978)

Nemesis (arcade, 1985)



Axelay (SNES, 1992)

Tau (XBox, 2000)

So has its bible.

The future of electronic entertainment

EDGE®

New videogames. New hardware. New era. New magazine. Available from leading newsagents

DREAMCAST | PLAYSTATION | PS2 | N64 | PC | XBOX | GAMECUBE

mental ray 2.1

See the light with *Max's* new rendering engine...

Price

£2285 – two processors
£4165 – up to four

Company

Discreet

Telephone

0800 181 738

Website

www.discreet.com

Features

- Plugs into *3D Studio Max* and *Softimage*
- Better-looking shadows, and reflected light
- Refraction, motion blur and transparent objects
- Depth of field effects
- Network support

System

PC: 300MHz • 128MB RAM • 7MB HD • Win NT 4/2000 • *3D Studio Max 3.1*

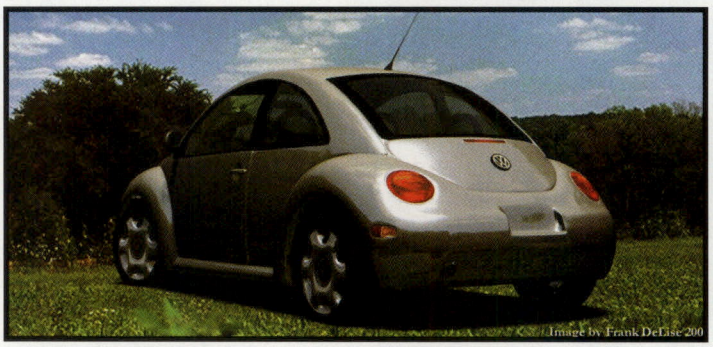
mental ray is an add-on rendering engine for *3D Studio Max*. Why would you need one? What's wrong with the renderer the package comes with? Well, for a start it can't handle bouncing light. Imagine a room containing one small window; light streams through the window and onto the floor. So far so good. Model this situation and you'll get a small square of light on the floor – the rest of the room will be in darkness.

In reality, the light will bounce off the floor and walls, illuminating the whole room in quite a complex way. Certain parts will be well-lit, others will not. Shadows will be of different shades depending on the colours of the objects near them. A red flower will reflect subtle red light onto the wall around it. If you have a renderer which models this kind of light, it makes for a fuller, more subtle, realistic-looking render, and prevents the need for putting in dim dummy-lights to fabricate the look of a real situation.

However, *mental ray 2.1* goes further than that. Because it traces the path of light as it bounces off and through objects of different materials, it can also create some stunning transparency effects. Liquid and glass aren't usually handled all that well in 3D. With *mental ray*, light reflecting off liquid throws dappled pools of light across surfaces, and reflections of reflections are created as light refracts through glass objects. The results can be stunning. However, they can also take a long time to produce. Tracing every ray of light is a time consuming process, and *mental ray* handles it by processing rectangular sections of the image one at a time. If you've got a network of computers, you can greatly increase rendering speed by allowing the renderer to send each block of images to a separate machine to be drawn out.

mental ray integrates very easily into *3D Studio Max 3.1*. You simply change the Preferences setting to make *mental ray* your default renderer and you're away. Extra controls become available in the Render window. You can set a depth of field – based on settings on the *Max* camera you're using – for some very effective focus effects. You can also alter Motion Blur settings, and render more efficient and realistic shadows – a shadow can be at its darkest close to an object, and fade out further away. And you can set the depth of reflections and refractions to create a balance between rendering time and image quality.

If you used it all the time, you'd have to learn lighting with *mental ray* in mind – the process is like lighting a real-life scene rather than traditional a CG one. But if you're working with scenes in which natural lighting needs to be simulated subtly, then the output of this plug-in can be beautiful. ca

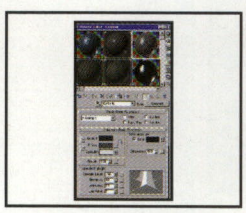


As this picture shows, reflections are one of the main advantages of *mental ray*.

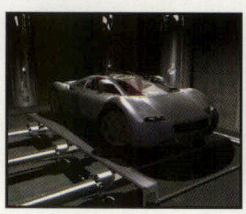
Shiny cars

A promotional shot for a new car. It has been placed in a hi-tech 3D environment...

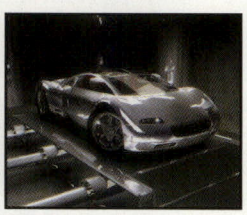
1 Here's the initial model. It looks quite impressive, but good modelling isn't quite enough. We light the model fairly simply – a single spotlight above the car is all we're using.



2 If you're using *mental ray*, materials are the key – we're surrounding our model with reflective surfaces and semi-transparent materials, all designed to throw light around in complex patterns.



3 Here's the standard *Max* rendering of our scene. We can see reflections and the shot looks quite interesting. However, there's a certain dullness to the car itself.



4 Changing our renderer to *mental ray* gives us a much more interesting and realistic image. Note all the reflections on the bodywork of the car – there's quite an improvement, which is quite as well really, considering that the difference is going to cost you a grand total of £2285...

Verdict

Speed	
Value for money	
Ease of use	
Documentation	

For: *Seamless integration into Max • Easy to learn – default settings are often all you need • Excellent results on certain scenes*

Against: *Long rendering times • You can get many of the effects anyway with well-positioned lights • Reflected light doesn't always behave as you'd expect*

SceneGenie 1.2

PC

The 3D jack of all trades now includes camera-matching and IK solutions…

Price

£706 (Ltd version £411)

Company

Autonomous Effects Inc

Telephone

020 7434 2950

Website

www.afx.com

Features

- Camera tracking without measurements
- Head tracking
- Match an object's rendered colour to the original scene colour
- Track a light's varying position, colour and intensity
- Registers or aligns two clips or a clip to a still
- Tracks a puppet armature and animates the detailed *Max* puppet
- Four-corner pinning

System

PC: *3D Studio Max* R2.5, R3.0, or R3.1 required • 233MHz+ Pentium • Windows 95, 98, 2000, or NT (not 3.1) • 128MB DRAM • 4MB of free disk space

Much of the success of *3D Studio Max* can be attributed to the plug-in technology that extends its repertoire in endless ways. *SceneGenie* is yet another *Max* plug-in for version 2.5 and 3.x releases, but what makes it so special?

For a start it's not a single tool, but a well-honed batch of 50 functions so deeply woven into the *Max* system that once you've installed it you may need to sit down and learn the software from scratch. The main features are cleanly divided into two specific areas. The first provides powerful tools for seamless combining of animation and live footage, motion capture, puppetry, sophisticated procedural and self-interacting animation.

This camera-matching capability requires no on-set measuring, and can utilise single points to guide matched moves within a scene. By locking onto a small selection of known points in a scene, the software is able to track and reverse-engineer the movement and perspective required to insert models and animation. We were impressed.

The final frame of an American TV commercial produced using *SceneGenie*. The camera starts with two actors in the foreground. *SceneGenie*'s camera track enables the new features to stay in sync.

The second significant addition is Inverse Anything™, an IK solver that supersedes *Max*'s inverse kinetics, with far fewer limitations on when you can use it. It can correctly show a hand holding a sword, for instance, irrespective of the movement of the sword, or a vehicle moving accurately across an undulating landscape.

While these things are achievable by hand, admittedly, it's nice to see them managed automatically with the minimum of intervention. What control you have is via the *SceneGenie* actuators. These actuators determine just how much twist, rotate or whatever you can exert on an object. The comparitors are the gauges which tell *Max* what the objective is. The two come neatly together in the Solver, where they interact internally to resolve any conflicts. This all appears as a special Track View mode in *Max*. What the Solver does is try to achieve a 'zero error' solution, and remove any problems en route.

Within *SceneGenie*, image-processing functions are the key to its success. The visors can pre-process film images to match tones or help find edges or specific colours. Once processed, the images can drive internal *Max* geometry and animation. The functionality that *SceneGenie* brings to *Max* is both elegant and effective. Chores that once took hours and looked suspect are now completed in minutes and appear flawless. The only downside is the price.

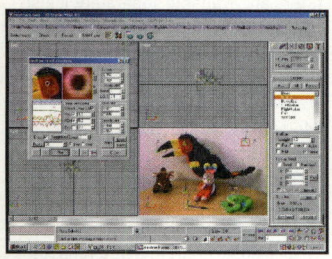
You'd need to have significant simulation or CGI integration work to justify the expenditure, but if this is the case it wouldn't take long for the time saved to outweigh the cost. ca

Image-processing functions are the key to its success

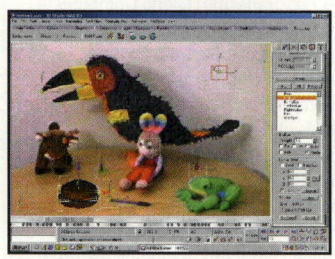
Making a scene

SceneGenie tracks points, so *Max* objects can be combined with real footage…

1 After selecting a video clip and camera using *CameraGenie*, sensors are added to the scene. The inner box defines what *SceneGenie* tracks, while the outer one shows where it should reasonably look for that feature. The more sensors you place, the more accurate the tracking is going to be.



2 Once the sensors are placed, you can then evaluate how well they're working using the Fast Tracker. Now you can play the animation and view a close-up image of the tracking. Adjustments can be made here if *SceneGenie* lets the target object stray from its gaze.



3 Once the camera is tracking nicely, you can add *Max* objects. Here, we've introduced the hamburger to the table. It moves correctly with all the real objects surrounding it – all that's required is better lighting, a shadow and a few sesame seeds sprinkled around…

Verdict

Speed	
Value for money	
Ease of use	
Documentation	

For: *Great camera-matching code*
- *Easy to follow and understand*
- *Image pre-processing*

Against: *Slightly expensive*

Visual GIF Animator 6

PC

Animated GIFs and banner ads. Take a trip to the dark side of the Web...

Price
Download $39

Company
MatchWare

Telephone
020 8940 9700

Website
www.matchware.net

Whatever your opinion of animated GIFs, you've got to admit they're going to be around for some time yet. What makes *Visual GIF Animator* stand out from its peers, though, is its use of timelines over frames and an object-orientated approach to the workspace.

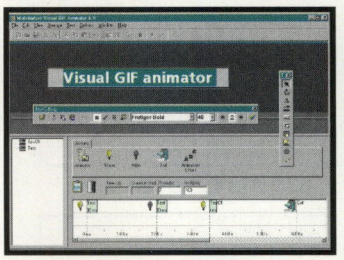
There are similarities in the way *Flash* operates, and those familiar with the timeline principle will certainly feel on familiar ground. Text and graphic elements required for your animation are stored as objects similar to *Flash*'s symbols. These are then placed on the timeline and can undergo a variety of associated pre-set transitional, animation and motion effects.

In fact, you can reveal, scroll, zoom and fade your animation in any number of interesting combinations. This makes building your animation fairly speedy, although it can still be somewhat limiting because creating custom effects is only really possible through modifying existing ones.

The basic toolbox is enough for most tasks, although this isn't to say that it's limited in its functionality. There's a comprehensive selection of property options for each element, enabling full control over an object's positioning in time and space, as well as colour/alpha ranges, text effects and alignment.

The concise manual includes useful information and tutorials, plus essential information necessary to optimise your results. Apart from getting its message across, one of the most important features about an animated banner ad has to be its file size. The smaller the file the quicker the ad loads, and the greater the chance of hooking a punter.

VGA also includes a variety of template examples that you can modify, and in addition to importing your own graphics and logos you can draw from a library of images.



***Flash* users will be familiar with the timeline, work area and object library in *VGA*.**

Higher-end packages may offer greater flexibility, but for ease of use, simplified optimisation benefits and the option to save in .avi format, *Visual GIF Animator 6* certainly provides excellent value for money. ca

Verdict

PolyTrans

PC

A quick solution for 3D professionals working on a budget...

Price
$395 (including *Max* plug-ins – *Maya* plug-ins sold separately)

Company
Okino

Telephone
001 905 672 9328

Website
www.okino.com

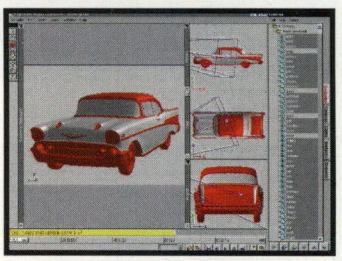
Okay, so this may not be the most exciting of subjects, but 3D file conversion is important to 3D professionals. When time and budget is tight, a program like *PolyTrans* from Okino Computer Graphics can make all the difference.

A subset of tools from Okino's flagship 3D rendering program *NuGraph*, *PolyTrans* focuses on the finer details of data conversion. The program has the most extensive Import and Export capabilities of any 3D program we've seen, and along with model file formats it can translate entire scenes between programs, including textures and some types of animation data.

You can edit data and scenes, too, adding lights, dividing up objects by surface definition and changing material properties. It's also good for fixing problematic geometry and recomputing Normals, so it shouldn't be thought of as simply a conversion tool.

Supported apps include *LightWave*, *Maya*, *3D Studio Max* and *Softimage*, although the *Maya* plug-ins are sold as an optional extra. The *Max* plug-ins which provide access to all of *PolyTrans*' filters are available separately. It also boasts comprehensive support for NURBS and Polygonal geometry types, as well as ACIS solid geometry (used in many CAD apps and the *Electric Image Modeler*). Chances are, if your 3D app can export to any non-native format that supports these geometry types, *PolyTrans* will be able to read and translate them.

As well as operating as a plug-in, the main application features a familiar 3D environment for viewing and editing imported geometry using OpenGL. The interface layout is quirky and the rotated title bars and text do nothing to make the program easier to use. Fortunately, the OpenGL display is fast and responsive, and *PolyTrans* can handle massive data sets, even on machines with low RAM.



***PolyTrans* can import many types of 3D data. Here, we've imported a *Softimage* .hrc file.**

If receiving 3D data from outside sources comprises a large part of your workload, *PolyTrans* is definitely worth considering. ca

Verdict

Epson Stylus Photo 2000P

PC Mac

Just when you thought colour inkjet quality couldn't get any better, it does...

Price
£799

Company
Epson

Telephone
0800 220 546

Website
www.epson.co.uk

Features

- 1440dpi resolution
- Prints up to 329x477mm (Super A3)
- Handles roll paper
- 100 years fade-proof ink
- Intelligent ink cartridges
- USB and parallel connection
- Optional PostScript RIP

Epson is a company that is used to redefining people's expectations in the printer market, but we were prepared to bet our shirts that print quality wouldn't improve beyond that of the superlative Stylus Photo 750. Luckily for us, there were no takers...

The Stylus Photo 2000P is the first of a new batch of Epson printers that promise 100 years of lightfastness; in other words, under normal conditions your photos will still look good in the year 2100! But there's far more to this powerhouse than fade-proof inks.

It's a wide carriage printer, and it can take single sheets or roll paper up to 329mm wide, which is wider than Super A3. This capability enables it to print right up to the edge of the page with no margin, even if you're using standard A3 paper.

It connects to your computer via a parallel interface or USB port, and comes with its own status monitor software that provides information about the current job and the amount of ink in the cartridges. The 2000P also features another long-overdue innovation: an accurate report of the ink remaining. Each cartridge contains a microchip that monitors the amount of ink you've used, so an accurate reading is no longer software-dependant. Coupled with re-sealable cartridges, this feature means that you can replace cartridges with fuller ones in order to complete large jobs, then finish off the old one at a later date.

All of that is secondary to the main event, which is the 2000P's stunning print quality. We've been using the term 'photo-quality' for a few years now, but here's a printer that finally exceeds photo-quality. It prints images that are better-looking than commercial photographs, with absolutely no visible grain or dithering at any distance, or on any colour.

The first time you see a printout (especially on the luxurious semi-glossy paper) that's intended for mounting, you get a little shiver of delight. You can print fine art-grade images at bigger than A3 size with no margins and take your work straight to a gallery, confident in the knowledge that it'll look great for considerably longer than you will.

There are a host of technological explanations for how the Photo 2000P produces such excellent printouts: variable-sized ink droplets, a three-stage inking formulation, a five-colour print process and a resolution of 1440dpi. The printer runs at about the same speed as the Photo 750, which means that a full, top-quality A3+ image will take about 25 minutes to print, while an A4 one takes around eight minutes.

The Stylus Photo 2000P is great to look at, quiet, and it produces breathtakingly good prints. If only it was free, it would be perfect! ca

Prints for the future

One of the 2000's greatest claims is the ability to print images that remain fade-proof for 100 years – which is longer than a conventional photograph. It does this using a pair of new technologies. The first is improved ink formulation and the second is a new type of paper designed especially for archiving.

However, the technology behind how it achieves such impeccable quality is even more impressive. Each ink drop measures just .16 of a millimetre across, yet as it's fired from the printhead it's coated in a special resin that helps it to spread evenly and dry quickly. Once the ink is on the paper another coating is sprayed on top and this is designed to smooth out the surface of the paper, reducing misdirected reflections of light and making colours look solid and perfect. All in all, the technology behind the Stylus Photo 2000P is amazing, and it'll give your work the classy finish it deserves.

Epson's new Stylus Photo 2000P prints edge to edge on A3 paper in stunning quality, and the ink won't fade for a 100 years.

Verdict

Speed
Value for money
Ease of use
Documentation

For: *Superb print quality • Fade-proof for 100 years • Gallery-quality media available*

Against: *Expensive to run • Slow for big prints*

Epson Expression 1640XL

PC Mac

At last, proof that a professional-quality scanner needn't cost you the Earth...

Price
£1996

Company
Epson

Telephone
0800 220 546

Website
www.epson.co.uk

Features

- Optical resolution 1600x3200dpi
- 42-bit colour export
- A3+ size bed (12.2x17.2 inches)
- Maximum speed 13.2 milliseconds per line in full colour
- Maximum optical density 3.60
- SCSI & USB interfaces as standard
- Optional IEEE1394 interface
- Optional transparency adaptor and sheet feeder
- No pre-initialisation – start scanning instantly

The 1640XL is an easy-to-use flatbed model aimed at the mid-range professional user, and features a new Micro Step Drive mechanism which enables it to move the scanning head by tiny amounts, resulting in an impressive optical resolution of 1600x3200dpi.

Of course, high resolution is fine as long as you don't have to sacrifice speed. Fortunately, you don't with the 1640XL, because at top whack the device takes just 13.2 milliseconds to scan a line in colour. This means you can capture a full A3 page in under a minute; take our word for it, this is one fast machine.

The unit comes with USB and SCSI interfaces as standard, but you can buy an optional FireWire interface if you need one. Your choice in this area determines the scanner's maximum rate, with SCSI being the fastest. However, you're more than likely to encounter computers with USB or FireWire interfaces, so if easy connectivity is a priority, Epson's device is a great choice — you can simply buy, plug in and use straight away.

With a maximum 42-bit colour resolution, both internally and externally, the 1640XL is capable of capturing 440 billion colours and 16,384 shades of grey. For most jobs this is likely to be a massive overkill, especially when you consider that an A4 image in 42-bit colour at 300dpi eats up over 45MB of hard drive space.

Big and beefy

Epson's excellent, versatile and easy-to-use Twain Pro drivers really makes the 1640XL easy to use, too, despite the fact the device is a weighty piece of hardware. With a maximum scanning area of 12.2x17.2 inches — large enough to scan a full A3+ page — Epson's baby requires at least two burly folk to shift.

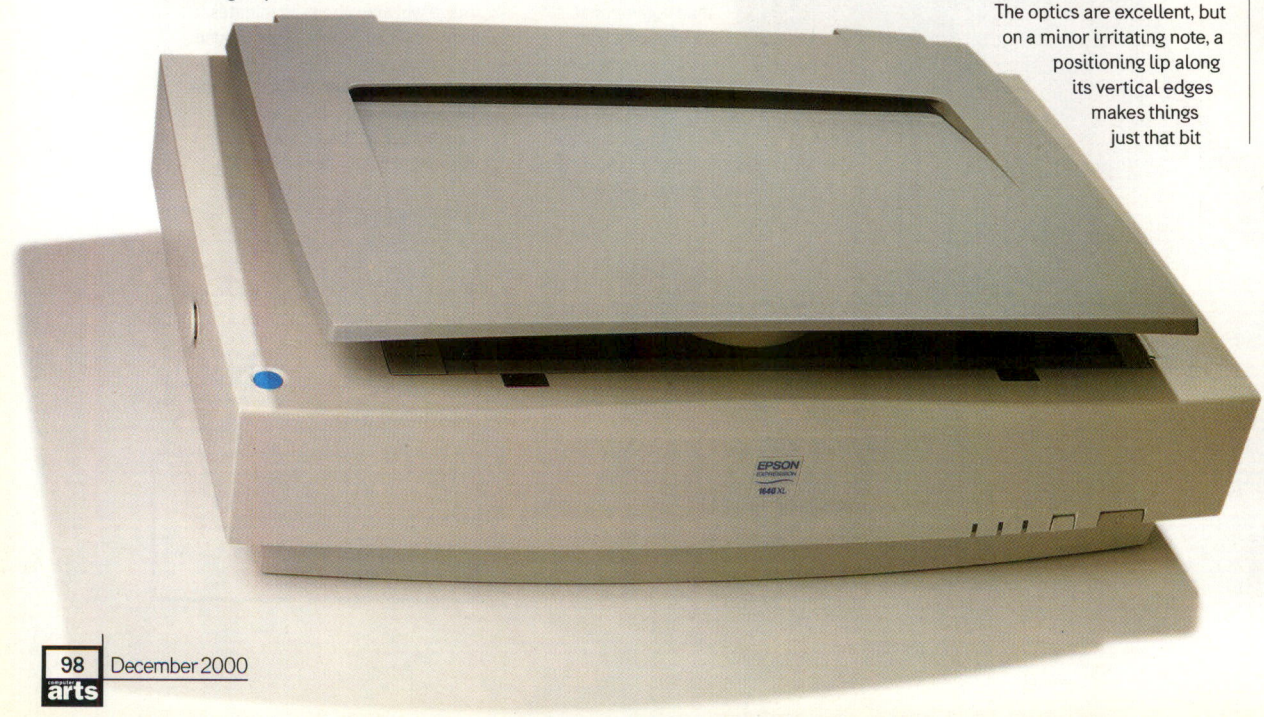
The optics are excellent, but on a minor irritating note, a positioning lip along its vertical edges makes things just that bit more awkward when you need to align right-angled media. An optional transparency adaptor is available (it comes as standard with the 1640XL Pro). This can handle 35mm film and negatives, as well as trannies up to 4x5 inches. There's also an automatic document feeder, which is useful for OCR work.

The Expression 1640XL produces wonderful results, in double-quick time. It's combination of large scanning size, fast speed, good colour depth and ease of use makes it a great asset to any graphics department, enabling designers to capture scans in-house that you may previously have had to farm out to your scanning department or an outside bureaux. ca

Next generation

Epson has been extremely aggressive in its assault on the graphics market over the last five years, taking an assured three-pronged approach via digital cameras, colour printers and scanners. Whereas some companies might try to dominate using marketing and pricing alone, Epson has opted for a different route, emphasising quality at every turn. Its products are never the cheapest, admittedly, but they often end up competing with products in a much higher price bracket. The 1640XL is a case in point: Epson's next-generation scanner should sit well next to the company's new brand of printers, which create proofs that last 100 years without fading...

Wonderful results... a great asset to any graphics department



Epson's Expression 1640XL scanner captures high-resolution A3+ images more quickly than you might expect, considering the price.

Verdict

Speed
Value for money
Ease of use
Documentation

For: *High resolution • Fast • High colour-depth*

Against: *Big and clunky build • You really need the optional transparency adaptor for 35mm film and negatives*

3D animation

Inside LightWave 6

Price
£42.99

Author
Dan Ablan

Publisher
New Riders

ISBN
073570919X

This manual is as useful for *LightWave* veterans as it is for novice designers.

Beginning with a close look at *LightWave*'s environment, the manual quickly settles down to detailed hands-on tutorials. Covering each of the modules of *LightWave 6*, if you follow the tutorials faithfully, you should have a firm grasp of the finer points of *LightWave*'s Modeller and Layout modules in no time.

The appendices look closely at *LightWave*'s Expressions and LScript features. Reports of a few files on the CD crashing some Macs not withstanding, if you're looking for a capable reference manual which offers a good teaching environment, this book could be just the thing.

Verdict

Flash techniques

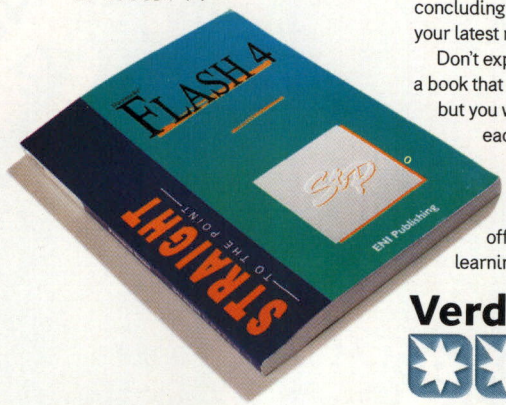
Flash 4 Straight to the Point

Price
£4.99

Author
Béatrice Daburon

Publisher
ENI Publishing

ISBN
2746009714



If you are new to *Flash*, then this manual will be just what you are looking for. Dispensing with the gloss that is associated with other manuals, this slim volume is a concise and comprehensive guide to each of *Flash 4*'s features.

Beginning with an overview of the *Flash* environment, you are taken on a tour of the key techniques, beginning with how to draw simple graphics and concluding with how to test and publish your latest masterpiece.

Don't expect in-depth tutorials from a book that runs to just over 100 pages, but you will find a worthy companion each time your memory of an icon's function escapes you. For the absolute beginner, this manual offers a less intimidating learning experience.

Verdict

Web design

Dreamweaver 3 Bible

Price
£36.99

Author
Joseph W. Lowery

Publisher
IDG Books

ISBN
0764534580

Macromedia's latest version of *Dreamweaver* comes under the spotlight in this reassuringly weighty manual, which attempts to offer information and problem-solving to beginners, as well as seasoned Web designers.

Beginning with a quick-start section for absolute beginners, the rest of the book is a steady learning curve that takes on board more and more complex design and coding issues. Covering techniques such as how to add frames, tables, behaviours, graphics and video to your Web pages, the book concludes with how to handle XML and maintaining Web pages for different browser versions. Although it has a text-heavy layout, this comprehensive manual well deserves the title of 'Bible'.

Verdict

Digital imaging

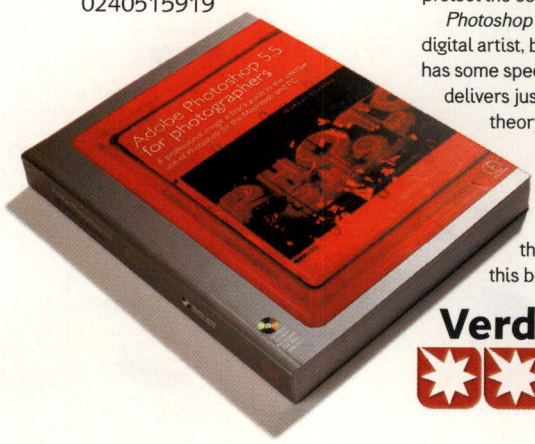
Adobe Photoshop 5.5 For Photographers

Price
£34.99

Author
Martin Evening

Publisher
Focal Press

ISBN
0240515919



If you're a photographer who wants to take those first tentative steps into the world of digital imaging, then this book is a good start. From the respected Focal Press, this manual offers a combination of *Photoshop* how-to and digital camera buying guide, as well as providing a discussion on the wider issues affecting digital photographers — not least how to protect the copyright of their images.

Photoshop is the workhorse of any digital artist, but the photographer has some special needs. This manual delivers just the right amount of theory, coupled with intensive hands-on instruction.

Any photographers who are about to invest in digital kit owe it to themselves to get hold of this book at the same time. ca

Verdict

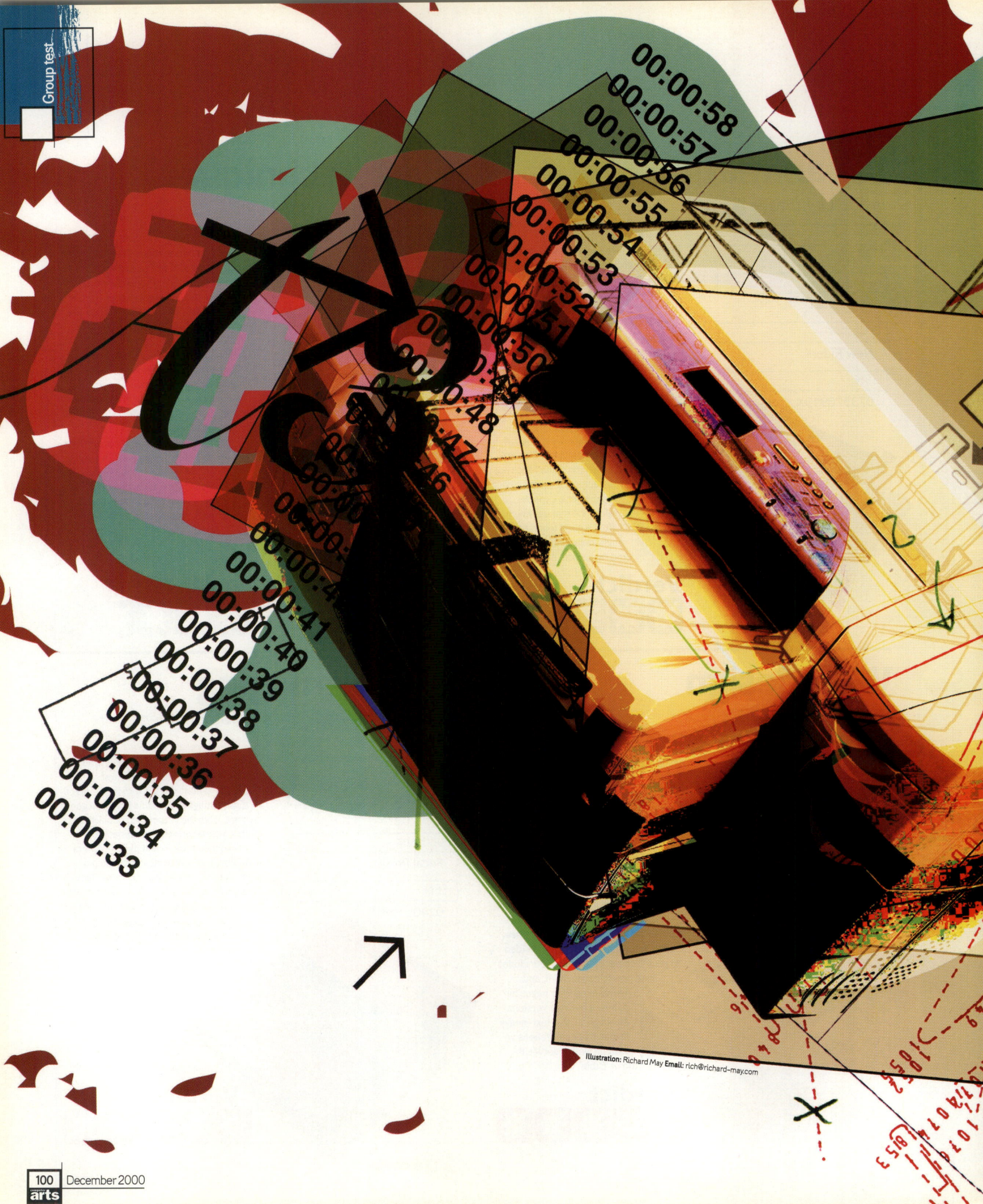


Illustration: Richard May **Email:** rich@richard-may.com

A3 Printers

With more A3 printers available than ever before, there's never been a better time to ditch your old A4. Six big guns provide the ultimate proof...

The world needn't revolve around A4 paper. Although it's the lingua franca of most graphics work, and nearly all printers are geared to print at this size, you can now buy A3 devices which offer twice the print area for little more than your bog standard A4 device. At least if you're talking colour inkjets.

A3 inkjets are ideal for proofing larger artwork, as long as you aren't printing hundreds of pages a month. Ink costs for inkjets are higher than toner costs for lasers, and you do have to replace the ink more often. However, the initial outlay for an A3 laser printer, particularly a colour laser, is always a lot more than its A4 cousins. This is because all the heavily-engineered mechanisms inside have to be scaled up for the wider paper.

A3 lasers have high-duty cycles and are geared for printing in networked environments, but while the print quality is good, it doesn't compare with inkjet output, particular when you print on photo paper. If you need the results to be light-fast, though, inkjet prints still suffer from fading in natural light.

Whether you're after ink or laser output, here are six of the best A3 printers currently available, subdivided into ink-jets (page 102), mono lasers (page 103) and colour lasers (page 104).

Making comparisons

How the six A3 printers measure up...

Of the three categories – colour inkjet, mono laser and colour laser – there are clear choices to be made. The colour inkjets prove the most difficult to choose between: both provide good-quality output at a reasonable price. But the DeskJet 1220C just pips its rival to the post, thanks to its neater design and dust-protected feed trays.

There's little to choose between the two mono A3 lasers, although the Lexmark is the more expandable, and boasts the better network monitoring. As for the colour giants, HP's Color LaserJet 8550 may provide better prints than Brother's machine, but you'd need a pack-horse to drag it into the studio.

Read on to find out the pros, the cons, and how the features compare...

Stylus Photo 1270

Price
£399

Company
Epson

Telephone
0800 220 546

Website
www.epson.co.uk

Technical Specifications

Maximum resolution
1440x720dpi
Maximum paper size
Oversize A3
Paper trays
One multi-size
Memory (supplied/max)
256K/256K
Rated speed (colour/b&w)
9ppm/8.7ppm
Rated costs per page
6p per 10x15cm print
Colour
Six colour inks
Ports
Parallel, USB
Duplex
Manual only
Dimensions (mm)
609x766x414

To all intents and purposes, the Stylus Photo 1270 is a Stylus Photo 870 with an extended carriage. It can take A3 sheets in portrait mode and feeds them from an angled tray at the rear to a telescopic tray at the front. This rear tray puts a slight wave into the paper, and offers no dust protection, so it's best to load it when you're just about to print.

This is a six-colour printer, with light cyan and light magenta inks added to the standard four. It's a moot point whether the six inks give a worthwhile colour improvement, but you do get better light tones for general proofing.

Cartridge-changing and head-cleaning controls are on the front panel – you only need to change the ink on an Epson machine, you see, thanks to the permanent piezo-electric heads – but this doesn't really make that much difference to running costs.

A Centronics-style parallel and USB port ensure easy connectivity, while a copy of *Photoshop 5* and stock images are bundled as standard.

Print times are good, with an A3 print taking only just over two minutes. The results are impressive, too, with balanced tone quality and respectable detail in the finished image. Good for light duty-cycle environments.

Verdict

HP DeskJet 1220C

Price
£409

Company
Hewlett-Packard

Telephone
0870 241 1485

Website
www.hp.com/uk

Technical Specifications

Maximum resolution
2400x1200dpi
Maximum paper size
Oversize A3
Paper trays
One at front
Memory (supplied/max)
8MB/8MB
Rated speed (colour/b&w)
11ppm/9.5ppm
Rated costs per page
Variable
Colour
Four colour inks
Ports
Parallel, USB
Duplex
Manual only
Dimensions (mm)
592x672x233

Hewlett-Packard has done its best to make this printer look neat, despite the necessary size of its input and output trays. In typical HP style, paper feeds from the front, performs a 180-degree turn, and then ends up in an out tray on top of the input tray. In the process, the printer's twin ink heads – one black and the other tri-colour – have done their magic, producing prints which stand up against the best its rivals can offer.

Paper transport is fast and efficient, and the printer can handle sheets up to oversize A3, so you can achieve full-bleed colour prints. Print times aren't tremendous, mainly because the printer re-calibrates itself before each print. It does this automatically, and produces a good print as a result, but the process eats up time.

The software driver also provides facilities for page imposition, so you can easily produce a brochure, with the software guiding you through the right ways to feed paper for manual duplexing. It also keeps an eye on consumables usage. Apart from the driver, the DeskJet 1220C doesn't come bundled with extra software, though.

A good, large-format printer which does its job quietly and efficiently. And it won't break the bank either.

Verdict

Lexmark Optra W810

Price
£2737

Company
Lexmark

Telephone
08704 440 044

Website
www.lexmark.co.uk

Technical Specifications

Maximum resolution
600dpi
Maximum paper size
A3 oversize
Paper trays
Two multi-size, one multi-purpose
Memory (supplied/max)
32MB/384MB
Rated speed (b&w)
35ppm
Rated costs per page
0.43p per page
Colour
Black and white only
Ports
Parallel
Duplex
Yes
Dimensions (mm)
622x680x556

Lexmark's Optra W810 clearly wants to become the basis of a big workgroup printer. As such, it can take all kinds of extra paper trays, output collators and finishing devices, thus ensuring maximum flexibility. As you might guess, though, the machine is big, even before you add any of these extras. With the two trays which come with it as standard, for instance, it measures some 62cm by 68cm, and towers over its rivals at 56cm in height!

As standard, the machine can print single-sided or duplex pages, using PCL 6 or PostScript level 3, both in emulation. Don't let this worry you, because Lexmark's emulations are tight and ensure good compatibility.

Connection-wise, the Optra 810W features a standard parallel, but if you network it through the built-in Ethernet port, together with Lexmark's MarkVision utility, you can monitor its status from anywhere on the Net.

With a quoted turnover of 35ppm, pages certainly appear fast. PCL emulation is quicker than PS3, but in both cases our 6.7MB A3 test file took under four and a half minutes to print.

If all you require is a mono output, the Optra 810W offers good-quality prints quickly, and provides plenty of room to expand with your needs.

Verdict

Epson EPL-N2700

Price
£1174

Company
Epson

Telephone
0800 220 546

Website
www.epson.co.uk

Technical Specifications

Maximum resolution
600dpi
Maximum paper size
A3
Paper trays
One multi-size, one multi-purpose,
Memory (supplied/max)
144MB/256MB
Rated speed (b&w)
27ppm
Toner cartridge cost
£161
Colour
Black and white only
Ports
Parallel, serial, Ethernet
Duplex
Through optional duplexer
Dimensions (mm)
535x559x428

Don't be fooled. The EPL-N2700 may look big and heavy enough to output immaculate colour prints, but it's actually a black and white laser, with a duty-cycle befitting a medium-sized office. It's also fully networkable, although parallel and serial connections are provided. This leaning towards office use shows in the paper sizes it can accommodate — the EPL-N2700 can't take A3 oversize paper, for instance, so no full bleeds.

Still, the printer's particularly easy to set up: the developer cartridge fits into place at the side, through the same door you use to release paper jams. It's a one-piece unit and should only need replacing every few thousand pages.

A single-line LCD with no back light shows messages on the front panel, while a series of buttons and indicators provides ample control over output — if you can work out how to use them. To be honest, the software drive is easier to navigate, and more practical.

The EPL-N2700 provides plenty of emulations, from level 3 PostScript, through PCL5e, to Epson's own ESC/P, and automatically selects between them. Printed pages are tonally good and suitable for early pre-colour proofs. For pure black and white work the EPL-N2700 certainly does the business.

Verdict

Brother HL-3400CN

Price
£3284

Company
Brother

Telephone
0845 606 0626

Website
www.brother.co.uk

Technical Specifications

Maximum resolution
600dpi
Maximum paper size
Oversize A3
Paper trays
One multi-size
Memory (supplied/max)
320MB/320MB
Rated speed (colour/b&w)
12ppm/24ppm
Rated cost per page
6.75p per 20 per cent A4 page
Colour
Four colour toner
Ports
Parallel, serial, PC Card, Ethernet
Duplex
Manual only
Dimensions (mm)
500x490x388

Now this really does look the part. Brother's HL-3400CN is a networked colour A3 laser with a print mechanism that's easier to handle than most. Just be careful with the unprotected developer belt when you insert it into the machine. It's light-sensitive, so remember to keep the lights down. Even with the substantial size of the machine itself, the single, multi-size paper tray sticks out the front by around 50mm, increasing the depth of the whole machine.

You can connect the HL-3400CN via parallel, serial or Ethernet links, and it's just as suitable working on a small workgroup as it is in a colour facility for a larger department. Controls comprise a series of buttons and a single-line LCD display, which isn't backlit. The software controls are better, and the printer offers PCL and PostScript in emulation. The driver also supports manual duplexing and watermarks.

However, print quality is less acceptable than from some of the newer printer designs. It uses a finishing oil to give each print a glossy sheen, and by default prints too dark. You can adjust this by calibrating your scanner and monitor to the printer with colour management software, but that's not much comfort for your three grand.

Verdict

HP LaserJet 8550

Price
£4647

Company
Hewlett-Packard

Telephone
0870 241 1485

Website
www.hp.com/uk

Technical Specifications

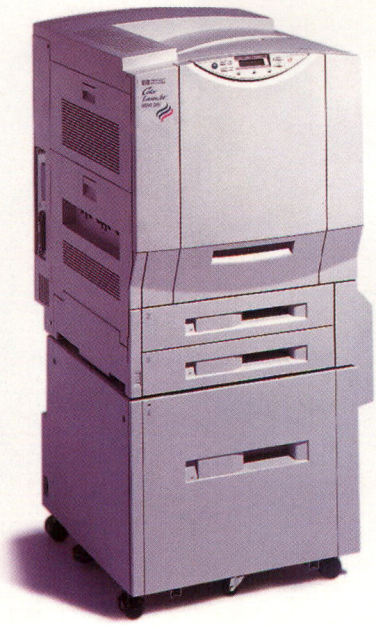
Maximum resolution
600dpi
Maximum paper size
Oversize A3
Paper trays
One multi-size, one multi-function
Memory (supplied/max)
32MB/512MB
Rated speed (colour/b&w)
6ppm/24ppm
Rated cost per page
7.5p per 20 per cent A4 page
Colour
Four colour toner
Ports
Parallel
Duplex
Optional
Dimensions (mm)
6604x7112x10,668

Now this really is one big mother! More frightening still, it's actually the printer's simplest configuration — coming on start-up with a multi-purpose tray and a second, multi-size tray, oddly referred to as Tray 3. Tray 2 and 4 (effectively a huge bin) are both optional. Understandably, HP's LaserJet 8550 comes with its own stand and castors, so you can wheel it around from place to place for the ultimate in manoeuvrability.

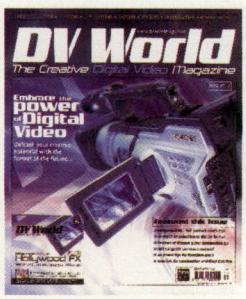
Setting up the machine takes around an hour, but is straightforward enough if you follow the instructions, while a simple parallel port provides the link with your PC. The printer comes with both PostScript Level 3 and PCL 5c interpreters, so it works with almost all applications. Results are good, too. Strong, vivid colours and fine detail are well reproduced, and print times are excellent — as long as the file sizes don't get too large. The 8550 comes with 32MB of memory as standard, but you may need more if you're regularly printing full-page photo images.

The impressive duty-cycle and facilities offered by the LaserJet 8550 emphasise its place in corporate workgroup environments, but the image quality is certainly capable enough for a well-endowed graphics studio. ca

Verdict



Without inspiration it's just
a £2,500 paperweight...



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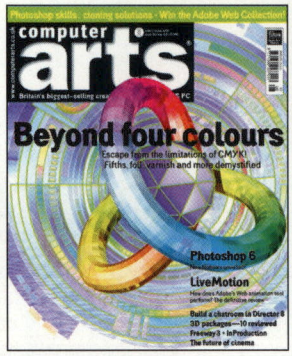
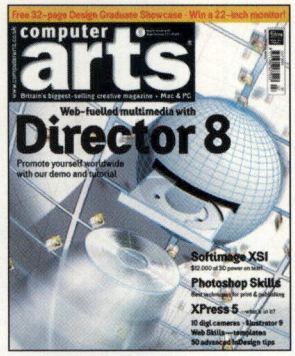
Issue 50 — Code CA050
50th issue special edition. Full *MerlinVR* app and *Commotion 3* trial version free.

Issue 49 — Code CA049
Exclusive *Illustrator 9* demo, *Flash 5* review & what *Photoshop 6* has to offer.

Issue 48 — Code CA048
Exclusive *MoviePack* demo, *UltraDev* tutorial, plus Deep Creative in profile.



Issue 47 — Code CA047
Life after CYMK, the future of cinema, plus *LiveMotion* review and demo.



Issue 46 — SOLD OUT
Director 8 tutorial & demo, and our free *Graduate Showcase* of 12 top colleges.

Issue 45 — Code CA045
FreeHand 9 tutorial and demo, HMA profiled, plus 3D eyes with Bill Fleming

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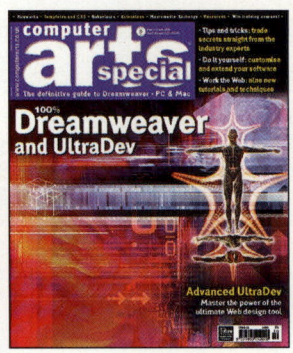

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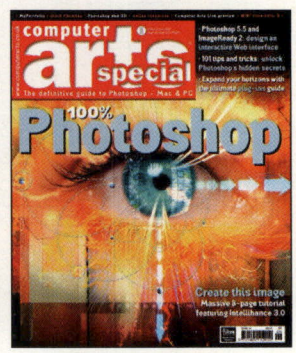

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Web-authoring

Adobe GoLive 5

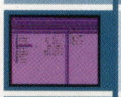
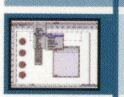
One of the Mac's great success stories, *GoLive Cyberstudio*, brought drag-and-drop Web authoring with exact positioning to the desktop long before *Dreamweaver*. Adobe quickly realised its potential and bought up the rights, renaming it *Adobe GoLive* and releasing the app on both PC and Mac.

With such powerful DTP-like layout tools, *GoLive 4* was always extremely useful – and the latest release is even better. Heading a list of new features in version 5 is the superb integration with Adobe's family of products. New *Photoshop*, *Illustrator* and *LiveMotion* integration features help Adobe-orientated designers easily set up a visually dynamic site. For example, you can now design and lay out a button panel using layers in *Photoshop* to represent rollover states, then insert the *Photoshop* file directly into *GoLive* as a *Photoshop* object.

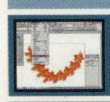
In addition, *GoLive 5* boasts a built-in 'Interactive Editor'. This new function, powered by *QuickTime 4*, enables you to place any *Shockwave Flash* or *QuickTime* file and cue it up *without* leaving *GoLive*. And SWF files and *QuickTime* media have now been added to their own special objects palette, enabling you to drag and drop media elements on your page.

GoLive 5 also brings with it enhanced table layout functions, 360Code, and a bevy of stunning interface enhancements. For more details, check out the review in issue 50 of *Computer Arts*.

Recent software reviews

	Product	Platform	Price	Company	Contact	Issue	Verdict
	Issue 50/November 2000						
	GoLive 5	Mac/PC	£234	Adobe	www.adobe.com	50	
	The fifth incarnation of *GoLive* brings with it a plethora of enhancements, including improved site management tools, superb table-editing facilities, and 360Code, which enables the import and complete editing of sites made in other packages. A worthwhile upgrade.						
	ZBrush 1.03	Mac/PC	$585	Pixologic	www.pixologic.com	50	
	Version 1.03 marks the first full release of Pixologic's virtual putty sculpting package. Enabling the quick creation of 3D-like imagery, *ZBrush* is a fantastic app for creating organic forms without the need for any 3D know-how. Slightly marred by a few technical glitches and bugs, though.						
	Image Processing Factory	PC	$12000	RealViz	www.realviz.com	50	
	A suite of four programs that assists in combining CGI with real images. MatchMover is a 3D tracker, ImageModeler produces 3D models from 2D photos, Stitcher creates panoramas, and ReTimer enables you to alter the speed of a video while retaining smoothness. Good but expensive.						
	Katabounga 3.13	Mac	£482	Gomark	www.katabounga.com	50	
	Multimedia design and authoring is on the cards with this oddly titled app. Although it's no match for *Director*, the drag-and-drop functions and the inclusion of *QuickTime 4* streaming make for a a nice alternative. No Web delivery, though, and it requires an exclusive runtime player.						
	Issue 49/October 2000						
	Flash 5	PC/Mac	£259	CU	www.macromedia.com/flash	49	
	Flash 5 updates its predecessor in sophisticated fashion. ActionScript more closely mimics Javascript, with a corresponding panel-based scripting tool overhaul. An improved interface and Movie Explorer are just two of the improvements that confirm *Flash* has come of age.						
	FiLMBOX 2.02	PC	£4000	Kaydara	www.kaydara.com	49	
	Comprehensive non-linear editing, calibration, constraint options and processing are backed up by compatibility with existing motion capture systems and all major 3D packages. *FiLMBOX* is destined to be a market leader; a fact reflected by its price tag.						
	RealFlow 1.3	PC	$595	NextLimit	www.realflow.com	49	
	RealFlow 1.3 could be the fluid simulator you've been waiting for. Particles are divided into six behavioural types, from Dumb to Elastic, and these can be subjected to a range of external forces, from Gravity to Magic. Once complete, meshes can be exported to *Maya*, *Max*, *LightWave* and *Softimage*.						
	Issue 48/September 2000						
	Maya 3 Unlimited	PC	£15,216	AliaslWavefront	www.aw.sgi.com	48	
	Maya 3 concentrates on improving its already formidable strengths rather than introducing entirely new features. New users can expect an easier ride, thanks to a more logical interface, while experienced users will welcome the many enhancements. Still the best 3D package in the world.						
	Badia Printools XT 2.0	Mac	$50	Badia Software	www.badiasoftware.com	48	
	Unruly gods preside over the *QuarkXPress* print dialog – banish them for good with this handy XTension. See what you're going to get with a preview pane, run checks for missing images and fonts, and define print styles instantly with this 'must-buy' for image-setter operators.						
	Issue 47/August 2000						
	Freeway 3.0	Mac	£199	Softpress	www.softpress.com	47	
	With a similar interface to *QuarkXPress*, *Freeway* competes with the likes of *Dreamweaver* and *GoLive* without the hassle of HTML. Version 3 includes JavaScript and XML actions, along with multimedia import options. Perfect for wannabe Web gurus and professional graphic designers.						
	Acrobat InProduction	Mac	£711	Adobe	www.adobe.com	47	
	High-end, professional PDF management, manipulation and processing app squarely aimed at professionals in prepress and print production. You certainly won't get to grips with *InProduction*'s In-RIP and Colour Converter options overnight, but when you do it could be a money-saver.						
	Issue 46/July 2000						
	SoftimagelXSI	PC	$7995	Softimage	www.softimage.com	46	
	The most eagerly awaited 3D app of the year arrives and brings with it a customisable interface, particle simulation, softbody dynamics and interactive rendering. You also get *Softimage|3D 3.9*, and of course the fantastic *mental ray 2.1* renderer. Awesome.						
	Illustrator 9	PC/Mac	£293	Adobe	www.adobe.co.uk	46	
	With flexible Transparency controls, live feathering and instant drop shadows and glows, Adobe's vector masterpiece just keeps getting better and better. *Flash* export and a Web-safe RGB workflow will keep Web designers happy, too.						

Best software by categories

	Product	Platform	Price	Company	Contact	Issue	Verdict
Multimedia/Web-authoring & design							
	Dreamweaver 3	PC/Mac	£299	Computers Unlimited	020 8358 5857	42	
	With a History palette and customisable menus, plus support for all of DHTML, XML, JavaScript and a slew of server scripting languages, including the latest 'on-the-fly' content generation, *Dreamweaver 3* is still the best Web authoring package that money can buy.						
	Fireworks 3	PC/Mac	£179	Computers Unlimited	020 8358 5857	42	
	Still the most powerful and easy-to-use package for creating and optimising Web graphics.Not only does it integrate perfectly with *Dreamweaver* and export straight to *Shockwave Flash*, it remains compatible with other, non-Macromedia scripting products, too.						
	Flash 5	PC/Mac	£259	CU	www.macromedia.com/flash	49	
	Macromedia's update begins where *Flash 4* left off, reworking its scripting innovations and adding many more workflow-facilitating tools into the bargain. Overall, an impressive marriage of intuitive design tools with powerful interactive programming functions.						
3D modelling and animation							
	SoftimageIXSI	PC	$7995	Softimage	www.softimage.com	46	
	The overall look, feel and workflow of Softimage's new powerhouse make *XSI* a dream to use. Softimage has really done a fantastic job in making a 3D application that's extremely complex and powerful, yet simple to use. A snip at $7995 ($11,995).						
	3D Studio MAX R3	PC	£3166	Discreet	01483 462 600	34	
	MAX joins the professional arena with a hoard of tweaks. Now including a totally rebuilt renderer, better NURBS, improved skinning and boning, and a customisable interface, *MAX* remains one of the best 3D packages in the world.						
	Maya 3 Unlimited	PC	£15,216	AliasIWavefront	www.aw.sgi.com	48	
	Hot on the heels of the last upgrade, AliasIWavefront once again succeeds in sharpening the cutting edge. Unsurpassed NURBS and a huge toolset are supplemented by steady improvements across the board, with attention being paid to the animation system and rendering set-up.						
	FiLMBOX 2.02	PC	£4000	Kaydara	www.kaydara.com	49	
	It's easy to see why motion capture specialists such as Audio Motion incorporate *FiLMBOX* into their workflow. Its toolset enables the application of motion capture data to characters with the minimum of fuss, and a range of constraining, non-linear editing options complete the professional picture.						
2D bitmap & paint							
	Paint Shop Pro 6	PC/NT	£89	JASC	www.digitalworkshop.co.uk	38	
	The latest upgrade to the favourite PC shareware graphics editor. Vector tools, editable text and Web-orientated features bring it up to date, and there are plenty of tweaks to the core photo-editing tools, too. Essential for those on a budget.						
	Painter 6	PC/Mac	£352	Computers Unlimited	020 8358 5857	39	
	Version 6 of MetaCreations' brilliant natural media package focuses on back-to-basics, with an improved interface and a focus on painterly tools. The sheer number of these is daunting at first, but they are powerful in use. There's no support for CMYK, however.						
	Photoshop 5.5	PC/Mac	£529	Adobe	020 8606 4000	36	
	The world's leading image-editor aims straight for the Web in this upgrade. *ImageReady*, the Web graphics tool, is bundled and *Photoshop* itself gains functionality geared towards the Web. The optimisation facilities are second to none. Plus there are a few new tools, too.						
Digital video editing & effects							
	Commotion 3	PC/Mac	£1864	Pinnacle	020 8358 5857	50	
	Another upgrade to the top video effects system. Video painting, Rotosplines, advanced keying, superb motion tracking tools and impressive particle animation make for an upgrade that gives its major rival, *After Effects*, a run for its money.						
	Final Cut Pro 1.2	Mac	£829	Apple	www.apple.com	44	
	Apple's offering to the mature DV market is a comprehensive and easy-to-use package. With fully customisable timeline and keyframable video and audio effects, *FCP* is a strong competitor to *After Effects* or *Premiere*'s crown. It also comes bundled with a great selection of software.						
	combustion	PC/Mac	£2697	Discreet	020 7851 8000	48	
	flame's little bother delivers an abundance of compositing, motion tracking, colour correction and animation tools. A well-laid out workspace along with superb keying controls make *combustion* an impressive package that in skilled hands can produce some truly stunning effects.						
Vector-based drawing							
	FreeHand 9	PC/Mac	£328	Macromedia	www.macromedia.com/uk	45	
	The best just got better. New features such as the Perspective Grid, improved enveloping and a whole host of new Web-based tools reinforce *FreeHand*'s status as the industry-standard vector illustration tool.						
	Illustrator 9	PC/Mac	£293	Adobe	www.adobe.co.uk	46	
	Adobe makes its superb vector app Web-ready with this latest release. New features include a *Photoshop*-like Save For Web option and the ability to export layers to *Flash* frames. It also has a plethora of new print-orientated tools, including a long-awaited Transparency feature.						
	CorelDRAW 9	PC	£315	Corel	www.corel.co.uk	33	
	New features for version 9 include an improved interface, tight control over outputting to PDF and better support for colour and printing. Reasonably expensive on the upgrade though (£159), and too many controls are hidden away.						

A guide to...

3D plug-ins

The open-ended architecture of many applications like *Photoshop*, *QuarkXPress* and, more relevantly, *3D Studio Max* has enabled users and programmers over the years to design and build up a stunning range of plug-ins, all of which make the 3D designer's job easier.

One such plug-in is Right Hemisphere's fantastic *Deep Paint 3D*, which mimics traditional painterly techniques like smudging, smearing and scratching. You can use it as a standalone app, to work on flat textures, or as a plug-in for *Max*, *Maya* or Softimage – creating a dedicated paint environment that runs from within your favourite app. Check out **[w]** www.deeppaint3d.com for more info.

If fur and hair are your thing, but you don't have the cash or time to invest in *Maya Unlimited*, check out the impressive *LightWave* plug-in, *Shave and a Haircut*, from Joe Alter (**[w]** www.sharbor.com). This nifty add-on enables you to create realistic hair and fur in no time. A similar plug-in for the same app is *Sasquatch*. Contact the guys at Worley Laboratories for more at **[w]** www.worley.com.

With 3D-on-the-Web the next Big Thing, 3D plug-ins which enable you to export your work as *Flash* files are more common than ever. *Vecta3D*, available as a standalone app and a plug-in for *3D Studio Max*, is one great example. Check out **[w]** www.vecta3d.com for further information. Another add-on along the same lines is *SWIFT 3D* (**[w]** www.swift3d.com).

Thankfully, 3D plug-ins are more accessible than ever before, proving once and for all that there's almost no limit to what you can achieve using any one of the major 3D applications if your imagination is up to it. As always, keep an eye on **[w]** www.computerarts/tutorials for helpful hints.

Two times table

Dual-processor G4

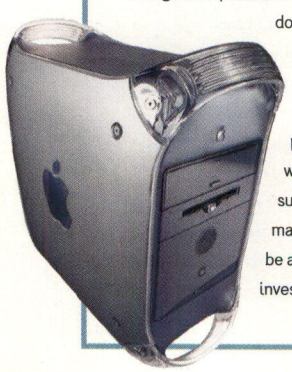
Unlike the designer-feted G4 Cube, the Dual 500MHz processor G4 offers little new or exciting on the outside. Boot it up, though and you're in for some pleasant surprises, the most obvious being the extra 500MHz processor!

Topping the bill when it comes to professional Macs, the Dual 500MHz Mac seems like every designer's dream. Certain testing has shown that a single 500MHz G4 processor can outperform a 1GHz Pentium on some *Photoshop* tasks – so two of them must equal a power and speed you could only dream about, right?

Sadly, not quite, because the current Mac OS (9.0.4) is yet to be natively aware of multiple processors, so unless you're using an app like *Photoshop* (or are running the Mac OSX beta available from **[w]** www.apple.com), this Mac is going to run at a pace you've seen before. For *Photoshop* work in general, though, we found this machine to be lightning quick, recording a 1.6x speed increase over a single G4 500MHz.

However, an extra processor isn't all you get in the deal. Included under the bonnet is 256MB PC100SDRAM (along with four DIMM slots, supporting up to 1.5GB memory), a 40GB hard drive, a DVD-RAM drive, and two USB *and* two FireWire ports.

The G4 offers great specs, with a highly expandable configuration, but at £2877, with not all packages being multi-processor aware, it does seem a little pricey. Still, if you're prepared to wait for OSX support, this machine could be a worthwhile investment.



Recent hardware reviews

Product	Platform	Price	Company	Contact	Issue	Verdict

Issue 50/November 2000

Dual 500MHz G4 | Mac | £2877 | Apple | www.apple.com | 50

Arriving in that familiar G4 case, Apple's dual 500MHz G4 delivers blistering speed in key apps like *Photoshop*. Although Mac OS9 doesn't yet support the dual processors, the release of the compatible and optimised OSX (scheduled for release next year) should see it excel.

Dimage Scan Dual II | PC/Mac | £450 | Minolta | www.minolta.co.uk | 50

Minolta's latest device can capture slides at up to 2820dpi with ease. Small and compact, and with results comparable to a £1000+ flatbed, you won't find a scanner anywhere at this price which looks as sharp and does as much justice to your transparencies.

G4 Cube | Mac | £1468 | Apple | www.apple.com | 50

The most aesthetically pleasing computer ever hides only a reasonable spec: a 450MHz PowerPC G4 processor, a 20GB HD and 64MB RAM. Still, it's amazingly quiet, thanks to Apple's revolutionary cooling system. Not tremendously powerful, sure, but it looks the part.

Issue 49/October 2000

Umax PowerLook 2100XL | PC/Mac | £2584 | IMC | www.umax.co.uk | 49

The Powerlook is an A3 scanner designed to embrace the creative designer's every need. A professional-level optical sampling rate of 800x1600dpi, combined with good handling of transparencies and high quality software support makes for a durable and desirable scanner.

HP DeskJet 1220C | PC/Mac | £349 | Hewlett-Packard | www.hp.com | 49

Despite some stiff competition from rival companies Epson and Canon, HP's monster-sized 1220C works out as the best value deskjet in the A3 market. Good design and ease-of-use are topped off by a useful large-scale print preview showing you exactly what to expect from your output.

LaCie Blue Eye | Mac | £429 | LaCie | www.lacie.co.uk | 49

LaCie's Blue Eye consists of a sensor, monitor cable and software which combine to offer true hardware calibration on LaCie monitors and less precise software calibration on just about any other. A highly specialised but economical solution to high-level colour management.

Issue 48/September 2000

Armari R8-S | PC | £2863 | Armari | www.armari.com | 48

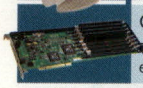
Storage and speed combine to make this a star performer. Choose between a single 933MHz processor (with the option of a second), or twin 800MHz PIIIs, and a 64MB Hercules 3D Prophet II adaptor for graphics duties. A monster 46GB Ultra ATA/66 hard drive completes the package.

Gladiac GeForce 2 GTS | PC | £250 | Elsa | www.elsa.com | 48

nVidia's upgrade to its standard-setting GeForce 256 retains the Double Data Rate RAM architecture of its predecessor, while delivering a host of improvements, among them faster Transform & Lighting effects, per-pixel rather than per-polygon shading, and hardware-based anti-aliasing…

Sony CPD-L181A | PC/Mac | £2462 | Sony | www.sony-cp.com | 48

Sony's stylish flagship TFT display runs at an optimum 1280x1024 at 85Hz, with 18 inches on the diagonal. Thoughtful touches include automatic calibration, a smart LCD display and a choice of context-dependent modes, as well as an unusually competitive price.



QikDrive | PC | £767 | Platypus Technology | www.platypustechnology.com | 48

The QikDrive storage system is a PCI card packed with 256MB-8GB RAM chips. As a solution to the infuriating waiting times induced by high-end RAM-intensive apps, it does the trick and does it well. Whether it justifies its price-tag depends on just how specialist or impatient you are.

Issue 47/August 2000

HP DeskJet 950C | PC/Mac | £234 | Hewlett-Packard | www.hp.com | 47

This latest offering from Hewlett-Packard not only looks fantastic, but is capable of stunning printouts. Extremely quiet, fast and affordable. It can output at a pretty impressive 2400x1200dpi and connects via a parallel port or USB hub – a winner.

Sony E400 | PC/Mac | £469 | Sony | www.sony-cp.com | 47

The E in E400 stands for entry-level, which was why we were surprised to see it coming in at a whacking £469. However, the E400 does have something to shout about. Its display is cool and crisp, and the smart and simple styling is a joy to behold. Let down by its non-entry-level price.

Agfa ePhoto CL18 | PC/Mac | £119 | Agfa | www.agfa.co.uk | 47

First things first, the ePhoto CL18 is certainly not a camera for the professional digital artist. But, if you're after a cheap, first-time snapper that will double as a rather average Webcam, then it may be worth a look.

Issue 46/July 2000

Electron 22 Blue | PC/Mac | £939 | LaCie | www.lacie.com | 46

LaCie's flagship 22-inch monitor has an impressive feature-set including dual input support – making it possible to use the monitor as a display for two machines – perhaps a Mac and PC. This goes hand in hand with great styling and a rather nifty removable hood.

12x4x32x CD-RW | PC/Mac | £375 | LaCie | www.lacie.com | 46

With the ability to burn a CD in just over six minutes, the external LaCie 12x4x32 CD-RW is certainly speedy. Rather unfortunately, however, it uses a 50-pin Centronics interface (obsolete on the PC) and proves to be rather expensive.

Umax PowerLook 1100 | PC/Mac | £939 | Umax | www.umax.co.uk | 46

Speed-wise the Umax PowerLook 1100 scanner is good but not devastating. Colours were reasonably good quality, but scanned line work lacked precision. Noisy and FireWire only, but not bad for the price.

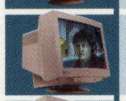
Best hardware by categories

Product	Platform	Price	Company	Contact	Issue	Verdict

Monitors

DiamondPro 2040u PC/Mac £789 Mitsubishi 01707 278 684 43

A huge 20-inch viewable screen is backed up by Mitsubishi's excellent Diamondtron Aperture Grille tube technology, providing a maximum resolution of 2040x1536 and a grille pitch of 0.24mm. Incredible image quality, a USB interface and the best anti-glare credentials we've seen.

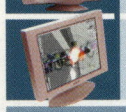


Eizo FlexScan F980 PC/Mac £1503 Eizo 01483 719 500 43

Despite eschewing Aperture Grille technology for the Invar Shadow Mask tube, the FlexScan competes well thanks to its 0.23mm dot pitch. Using Shadow Mask means that there are no tensioning wires across the screen, but it still can't compete with the Mitsubishi 2040u's totally flat screen.

Multiscan CTB-G500 PC/Mac £911 Sony 0990 111 999 43

Sony's flat FD-Trinitron tube provides rich colours and razor-sharp text across the screen. A stunning monitor that certainly won't disappoint, it's let down only by minor flaws in its ability to display straight lines at the edges, which means it can't justify a higher price than the DiamondPro.



Sony CPD-L181A PC/Mac £2462 Sony 0990 111 999 48

You have to pay for the privilege, but discerning users will instantly warm to Sony's immaculate flat-panel TFT display. It's cheaper than its slim rivals and, thanks to the automatic calibration feature, provides an excellent image.The lack of colour calibration may prove awkward, though.

Digital cameras

Fujifilm 4700 Zoom PC/Mac £700 Fujifilm www.fujifilm.co.uk 46

If you need high-res images, but don't quite want to fork out for professional kit, the Fujifilm 4700 Zoom may be the ideal choice. Plenty of features available here, including optical zoom – and, more impressively, 4.3 million pixels squeezed into a 2-megapixel CCD. A superb buy.

Nikon CoolPix 950 PC/Mac £800 Nikon 0800 230 220 38

The Nikon CoolPix 950 reinforces the company's reputation for producing top quality professional products. Excellent picture quality plus easy-to-adjust shutter, aperture and focus controls earns this camera first place.

Sony Cyber-shot DSC-F55 PC £599 Sony 0990 111 999 38

A mix between a camcorder and a digicam, the tiny DSC-F55 can record short MPEG movies with sound, or incredibly sharp 2.1-megapixel images.The image quality of the Cyber-shot was the best on our group test, and was only let down only by the lack of an optical zoom.

Large-format printers

Roland Hi-Fi JET FJ-50 PC/Mac £15,269 Roland(UK) Ltd 01792 515 045 42

Capable of outputting at 1440dpi on paper up to 52 inches wide, the FJ-50 uses six colours instead of the usual four. Be warned, this is a huge brute of a machine, but definitely our pick for poster-sized printing.

HP DesignJet 2500CP PC/Mac £9858 Hewlett-Packard 0990 474 747 42

The 600dpi renders absolutely astonishing results, thanks to HP's own technology, and a 4.3GB hard drive with 36MB memory. This printer certainly proved to us that speed can come with economy.

Epson Stylus Pro 5000 PC/Mac £2344 Epson 01442 261 144 42

Aimed at the photography and graphics market, the Stylus Pro handles paper sizes from A3 up, with six colours and resolutions up to 1440dpi. Dual-density drop technology and MicroPiezo heads ensure excellent skin tones.

Photo-quality inkjets

Epson Stylus Photo 870 PC/Mac £239 Epson 0800 220 546 44

Using a six-colour cartridge, the Photo 870 really does give fantastic results for your money. With a fine dithering pattern, quieter motor and faster printing all for under £250 you can't really go wrong. Those wanting to print larger documents should check out the A3 Photo 1270.

Epson Stylus Photo 750 PC/Mac £199 Epson 0800 220 546 40

The output tray is raised and it's not slow, in spite of the six-colour process. The prints are absolutely excellent, and only reveal their inkjet origins under an eyeglass. Overall, the Stylus Photo 750 is an excellent buy.

HP DeskJet 970Cxi PC/Mac £279 Hewlett-Packard 0990 474 747 40

Printouts from this machine are superlative, with smooth contones on top of good colour matching and contrast, while a duplex unit enabling you to print both sides without refeeding explains the hefty price tag.

Scanners

Umax PowerLook 2100XL PC/Mac £2584 IMC www.umax.co.uk 49

This A3 flatbed incorporates Moving Mirrors technology to optimise capture quality, and as a result is capable of better quality output at a lower resolution than supposedly better spec machines. First class bundled software, pleasing design and flexibility add up to a professional product.

Scitex Eversmart Jazz + PC/Mac £12,332 IMC 01344 871 329 44

The Scitex EverSmart Jazz+ is a real gem. With a resolution of 2540x7620, it's possible to blow up a 35mm tranny to full A4 size – with crystal-clear quality. But this gob-smacking quality goes hand in hand with a gob-smacking price.

Linotype Saphir Ultra 2 PC/Mac £1409 Heidelberg CPS 01242 285 100 37

With excellent build, slick looks and a built-in transparency adaptor, the Saphir Ultra 2 screams quality. A 10,000-line CCD brings in 42-bit images at a truly stunning 1200x2400dpi pre-interpolation. Reasonably expensive, but well worth the money.

Online retail

Macs

With ever more designers turning towards the Mac, it really is no surprise that Mac resellers have continued to grow on the Web. So if you're thinking of safely buying online, why not try the following:

Jigsaw (**[w]** www.jigsaw24.com) is a great place to start, and features virtually every slice of Mac kit you could want. The site is fully searchable, there are great deals in the 'special offers' section, and prices are friendly, too.

Another top Mac site is **[w]** www.macwarehouse.co.uk. Macwarehouse offers great deals and special offers, and is cleanly designed and easy to navigate. The searchable archive makes this one of *the* places to visit if you lead a Mac-orientated life. Good reputation, too.

And, of course, if you can't find what you're looking for at the two sites above, why not try the horse's mouth (as it were): The Apple Store at **[w]** www.apple.com/ukstore. Here, you'll find a revolutionary way of online shopping going by the name of 'One Click'. This enables you to (surprise surprise) buy anything in The Apple Store with one click of your mouse (you do have to sign in first, though). And bear in mind that The Apple Store doesn't do that many special offers or sell cut-price old stock. Still, at least you know you're getting your kit straight from the manufacturer.

On the CD

Complete Buyer's Guide on the CD...

If you're still stuck about which product is right for you, check out the Buyer's Guide on the CD for a full list of all the hardware and software we've ever reviewed. ca

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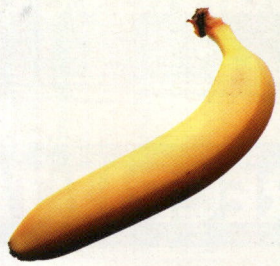

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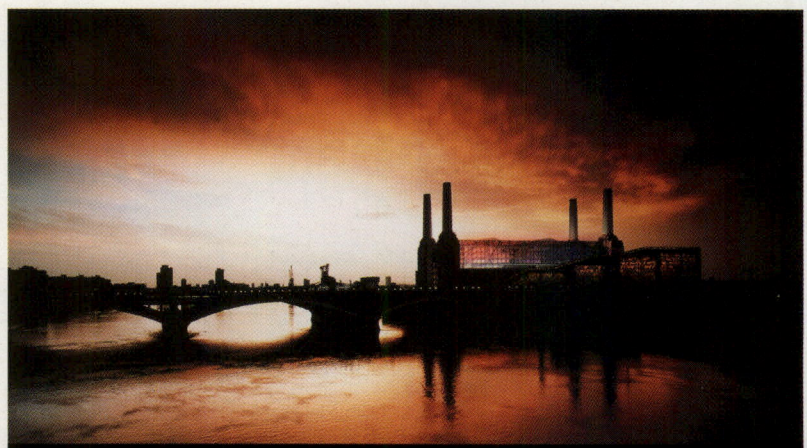

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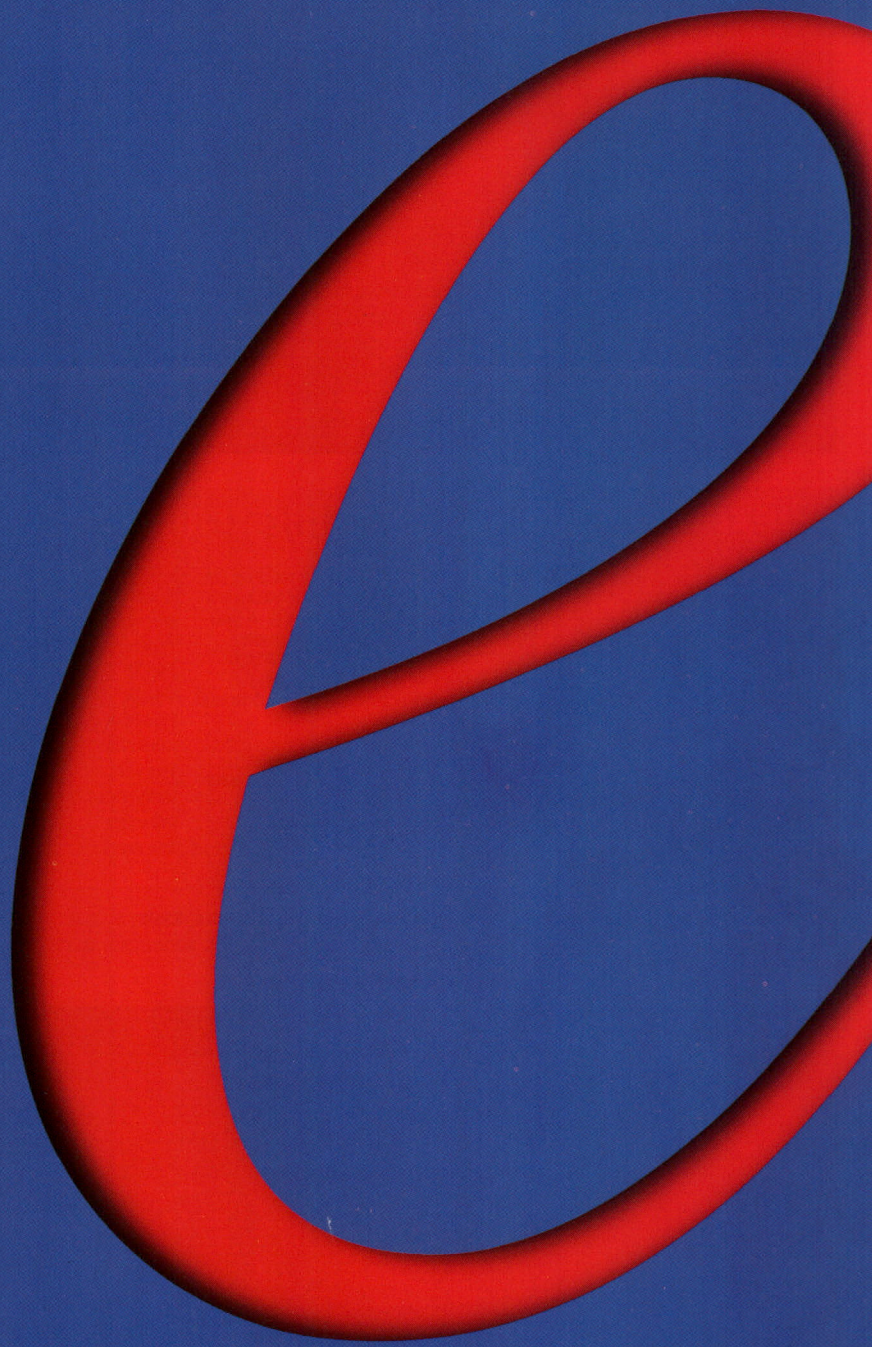

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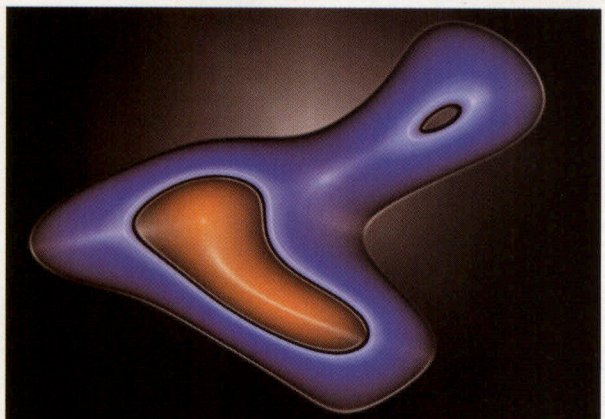

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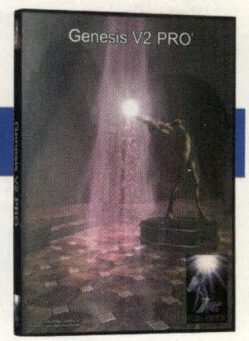

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1

1 Andy Park and Wojciech Madej

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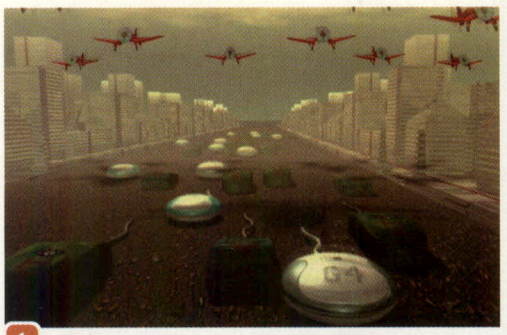
Undercover Levels and Flames

"It was great to work in collaboration, because you could really push each other to experiment, and go further with the process than you would have done alone," explains co-creator Andy Park. "Wojciech has a great eye and he knows exactly when enough is enough and a piece is real." Trained as a fine artist and painter, Andy is now partner in Web design and multimedia company PandaMedia All Stars, while colleague Wojciech fronts his own graphic design company in Krakow, Poland. To create 'Undercover Levels' and 'Flames', the digital duo used a 500MHz Pentium II PC with 128MB RAM, aided by *Photoshop 5* and *Illustrator 7*. "We used a Sony Mavica to capture images of ourselves first, and then manipulated them in *Photoshop*."



1

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1 Franco Tassi

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M100-11, M100-06 and M100-04

A freelance art director for the last ten years, Francis has already won international awards for his work on Swatch ad campaigns. "I love the work of companies like Tomato, The Attik and Me Company, and I hope some day to do something that is as good as them." For these 'M100' images, snapped from a short promo clip for Italian computer expo IBTS, Francis used a 150MHz Power Mac 8500 with 448MB of RAM, replete with *Photoshop*, *After Effects*, *Strata StudioPro*, *Bryce* and *Media 100*. "I modelled the megaphone in *Strata StudioPro 2.5.3*," says Francis, "basing the Photoshopped texture on photos of a real Sukhoi27 that I shot at an air show." The dust in the tank cameras scene was created using the *After Effects* plug-in *Clouds*, from Puffin ImageLounge.

2 Darryl Cunningham

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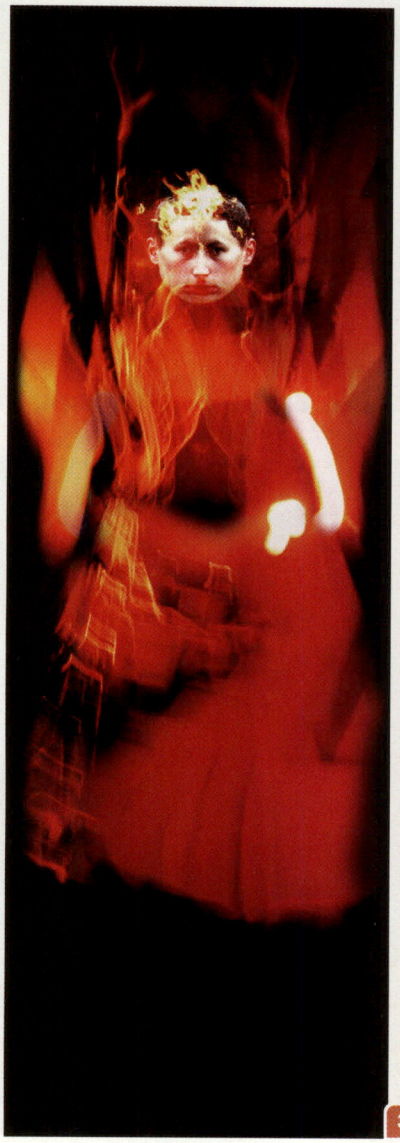
Girl In A Room

"I've always been interested in drawing and cartooning in particular," enthuses Darryl. By day a healthcare assistant at an acute psychiatric ward; by night, a hobbying cartoonist, Darryl saw what his friends were doing on their computers and was impressed. So impressed, in fact, he bought himself a Blueberry iMac. "Originally, I was just using it like a digital colouring book," admits Darryl, "but more and more now I'm doing stuff directly on screen, and getting a real feeling for the flexibility of the software." 'Girl In A Room' started life the old-fashioned way as a simple pen drawing, later scanned in and coloured using *Photoshop* — Darryl finds his Wacom graphics tablet a real boon here. But because of the demands of his day-job, design remains a peripheral pursuit.



3

4

3 Johann **Chan**

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Fire Karl and Dude

It's amazing what you can do with a jar of Vaseline, some fishbones and a washing conditioner ball. Recent Art and Design graduate Johann explains: "I actually used this stuff to generate 'photograms' – photographs captured without cameras – for the eclipse effect in 'Dude'. I put the Vaseline and ball on photographic paper in a darkened room, and then shone light on them to create a weird effect. Afterwards, I layered the fishbones scan on top of the composite." To help him create this unusual amalgam, Johann relies on a Pentium 200 rammed up with 32MB, and his favourite app *Photoshop*. "My favourite tools have to be layers," he says. "I tend to avoid using plug-ins, because to use them well you really have to master them. Otherwise, you end up with predictable results."

4 Thomas **Herzig**

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[w] http://members.vienna.at/thomas.h

obensüd

"The computer is a very powerful, but also a dangerous tool," warns Thomas, a Viennese architect with rich experience in both traditional tech drawing and CAD. He continues: "A person who knows little about perspective, light, materials and reflections can produce photorealistic pictures. But while these may impress the unskilled user, they're just the creations of a lifeless machine. The result can only be an authentic piece of art if you have the picture in your mind before you create it on the computer." 'Obensüd' – created on a G3 using *form·Z*, then *Photoshop* to finish off subtle gradations in shadow, contrast and light – is a case in point. "It's my dream of the ultimate skyscraper," says Thomas. The interior rooms and environment are made up of around 300,000 polygons.

1

2

1 Aaron Chambers

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Cyborg and UniRoller

"Music is an essential part of my work," explains Aaron, founder of Blue Eye GraFIX, an illustration and design outfit that's geared towards everything 3D. "It's so much easier working with the headphones on, leaving you alone with your idea". And standing between that idea and realisation is a 266MHz G3 with 320MB RAM, a 30GB hard drive space and just three apps: the new *Strata 3D*, *Photoshop* and *Strata StudioPro 2.5.3*. Aaron modelled 'Cyborg' in *Strata 3D*: "The rib cage, wrist, ankle, knee, elbow and pelvis are all metaball modelling". 'UniRoller' was created in *Strata StudioPro*: "Lathes make up the wheel, tire, balancing and exhaust systems. All the renders were taken into *Photoshop* and added to a gradient background," Aaron comments.

2 Jason Chadwick

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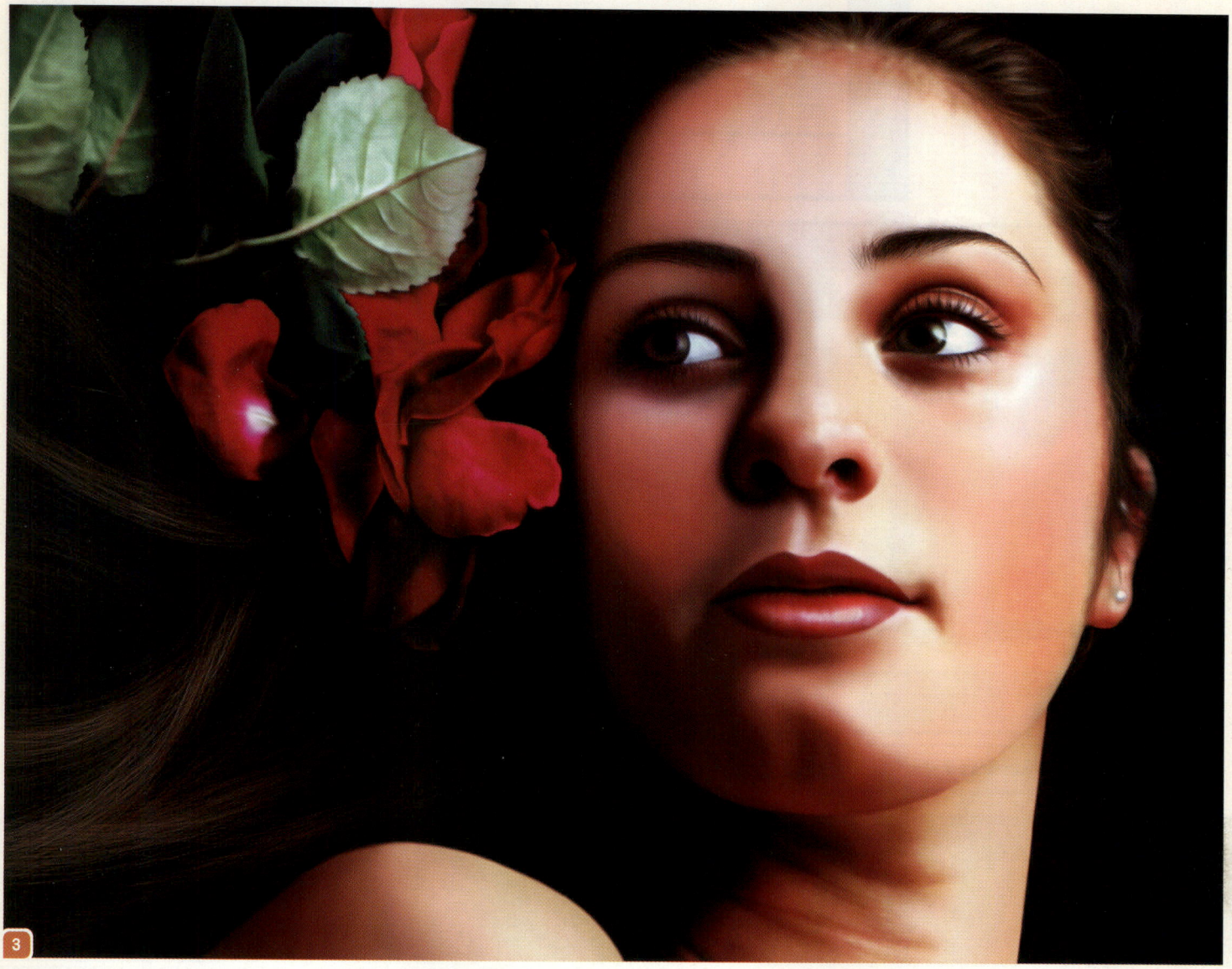
[e] jason@colourcreation.fsnet.co.uk

DJ Break tape cover background

"I created the tape template for a friend who's a drum and bass DJ," explains Jason, Art Director for Mancunian bluechip-client design house MKP Direct. "Like me, he's influenced by hip hop, so I knew he'd appreciate the Graffiti style." Jason flexes his creative muscles on his home-bound 192MB G4, listing *Photoshop* plug-ins *KPT 5 Tools* and *Eye Candy* as his particular favourites. "Much of my work is planned out in *Illustrator 8.0* first," he says. "The main blue background on the box was taken from a section of a photograph that had been adjusted by replacing the colours and increasing the contrast levels. I achieve that translucent effect in the shape using the Overlay, Luminosity and Hard Light filters; it's a pretty simple process, but it helps add depth."



3

3 Linda Duong

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[e] duonginda@hotmail.com

Roses

"I like my images to look simple, subtle and still have photographic elements such as detail and realism," explains Linda, a Fine Arts graduate with recent qualifications in computer art, design and photography. Using her medium-format camera, Linda normally shoots the real-life subject in colour under studio conditions, then scans the A4 print into her 250MHz Power Mac 6500, bristling with 96MB RAM. In *Photoshop*, she blurs the image to obliterate details and flatten colours, afterwards redrawing detail back in using the Dropper tool as a chromatic guide. "I also use the Lasso tool for feathering images by one or two pixels to give them a clean outline," she adds. "One of the greatest challenges is to retain the vibrancy of the image I've created as a fine art print." ca

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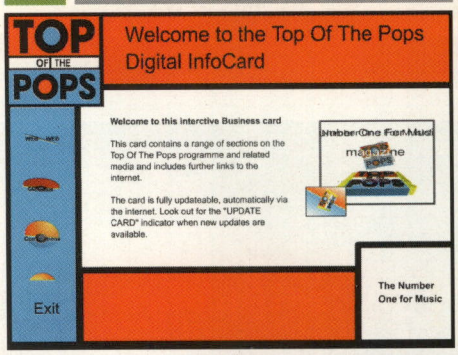
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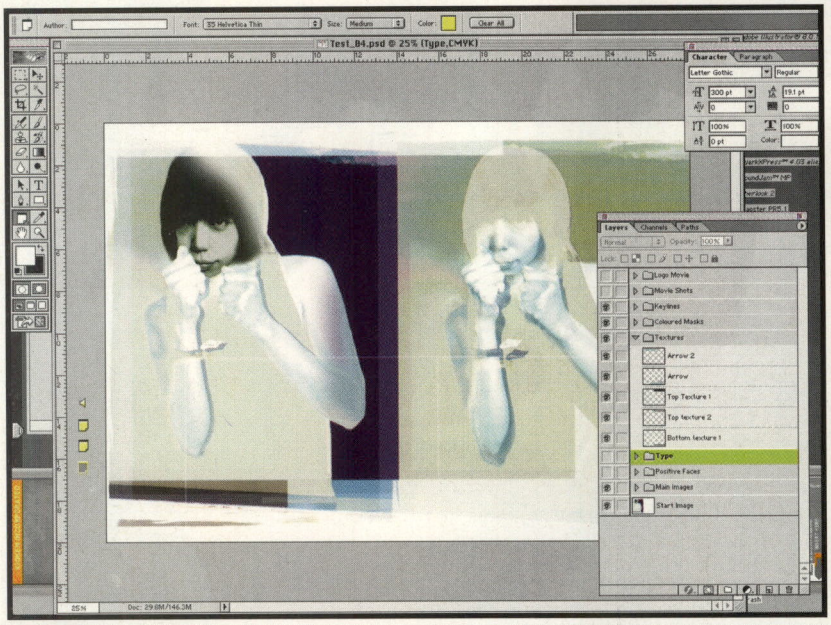

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Next issue [52/13.00]

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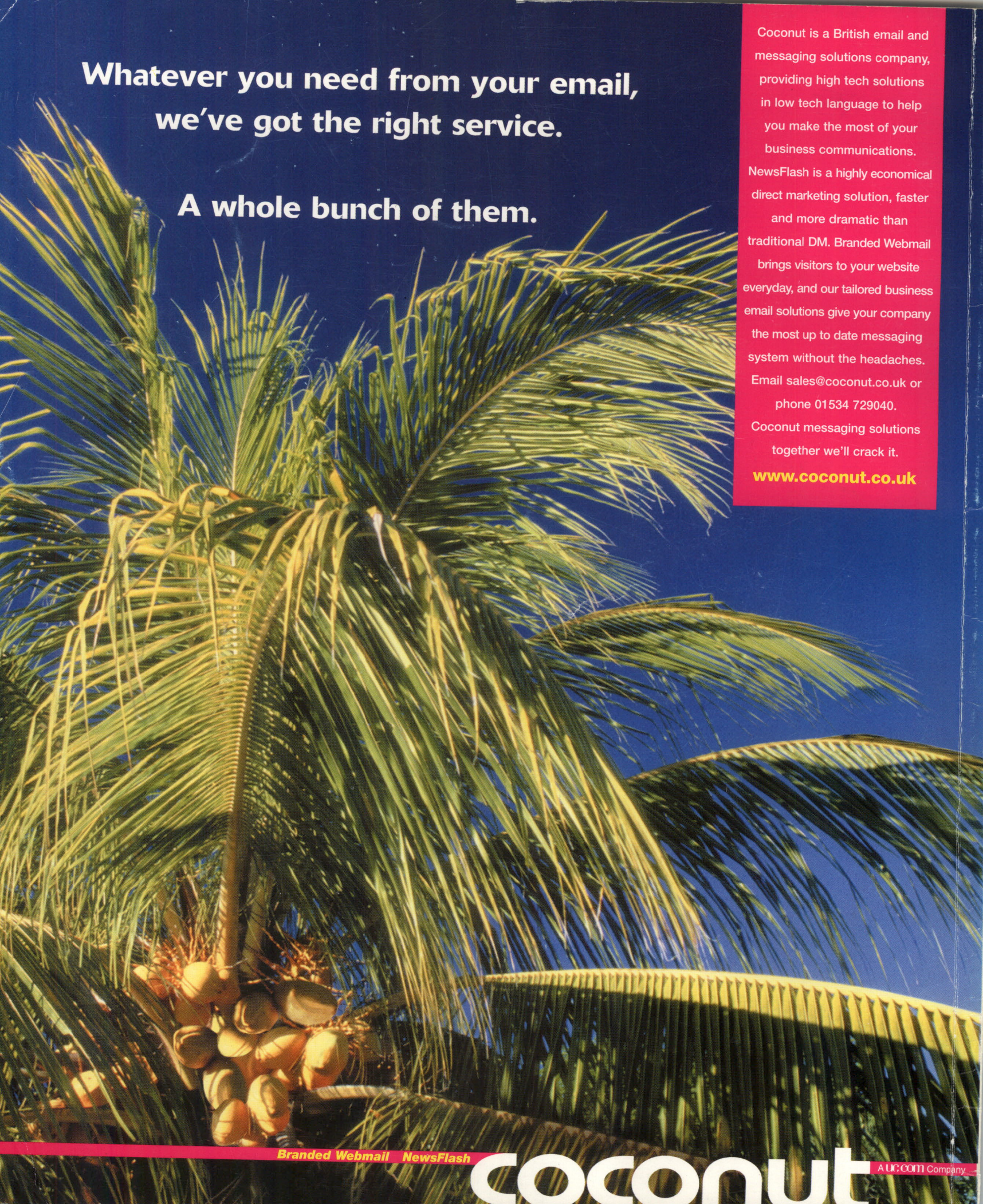
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